



## **Town of Arlington, MA Redevelopment Board**

### **Agenda & Meeting Notice July 6, 2020**

This meeting is being held remotely in accordance with the Governor's March 12, 2020 Order Suspending Certain Provisions of the Open Meeting Law G.L. c. 30A, Section 20. Public comments will be accepted during the public comment periods designated in the agenda. The public may email or provide any written comments to [jraitt@town.arlington.ma.us](mailto:jraitt@town.arlington.ma.us) by July 6, 2020 at 12:00 p.m. If visual information is provided as part of your correspondence, the Board requests this by July 3, 2020 at 12:00 p.m.

The Arlington Redevelopment Board will meet Monday, July 6, 2020 at 7:00 PM in the  
**Join Zoom Meeting with audio and video by connecting using this link and Meeting ID:**  
**<https://zoom.us/j/97732076253> | Enter Meeting ID: 977 3207 6253 or join by phone with by**  
**calling: 1-646-876-9923, enter the Meeting ID 977 3207 6253 followed by “#”**

#### **1. Public Hearings**

7:00 p.m.

##### **Docket #3602, 1207-1211 Mass Ave**

##### **\*Continued Public Hearing\***

Board will continue hearing for Special Permit Docket #3602 to review application by James F. Doherty for 1211 Mass Ave Realty Trust, at 1207-1211 Massachusetts Avenue, Arlington, MA, 02476, to construct a 50-room hotel and restaurant at 1207-1211 Massachusetts Avenue in the B2 Neighborhood Business District and B4 Vehicular Oriented Business District. The continuation of the hearing is to allow the Board to review and approve the application in accordance with the provisions of MGL Chapter 40A and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review.

##### **Docket #3625, 882-892 Mass Ave**

##### **\*Continued Public Hearing\***

Board will open public hearing for Special Permit Docket #3625 to review application by 882-892 Massachusetts Ave., LLC, for 882-892 Massachusetts Avenue, to develop a new mixed-use building with twenty-two (22) one-bedroom residential units and one (1) commercial space in a B2 Business District. The opening of the Special Permit is to allow the Board to review and approve the application in accordance with the provisions of MGL Chapter 40A and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review.

- For each public hearing, applicants will be provided 5 minutes for a presentation.
- DPCD staff will be provided 3 minutes to discuss public hearing memo.



- Members of the public will be provided time to comment.
- Board members will discuss each docket and may vote.

## **2. Discussion: Thorndike Place Comprehensive Permit**

8:00 p.m. Board members will discuss and may vote to update letter to ZBA

## **3. Presentation and Discussion: Whittemore Park renovations**

8:30 p.m. Representatives from Crowley Cottrell and the Department will provide a project update.

Board members will discuss

## **4. Appointment: Housing Plan Implementation Committee**

9:00 p.m. Board members will vote on appointment

## **5. Director's Updates**

9:10 p.m. Director will provide updates

## **6. Meeting Minutes (4/27, 5/4, 5/18)**

9:20 p.m. Board members will review and approve meeting minutes.

## **7. Open Forum**

9:25 p.m. Except in unusual circumstances, any matter presented for consideration of the Board shall neither be acted upon, nor a decision made the night of the presentation. There is a three minute time limit to present a concern or request. Meeting participants will not have access to video.

## **8. Adjourn**

Estimated 9:45 p.m. – Adjourn

## **9. Correspondence Received**

A. LeRoyer correspondence received 6/29/20





## Town of Arlington, Massachusetts

### Public Hearings

#### Summary:

7:00 p.m.

#### **Docket #3602, 1207-1211 Mass Ave**

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Board will continue hearing for Special Permit Docket #3602 to review application by James F. Doherty for 1211 Mass Ave Realty Trust, at 1207-1211 Massachusetts Avenue, Arlington, MA, 02476, to construct a 50-room hotel and restaurant at 1207-1211 Massachusetts Avenue in the B2 Neighborhood Business District and B4 Vehicular Oriented Business District. The continuation of the hearing is to allow the Board to review and approve the application in accordance with the provisions of MGL Chapter 40A and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review.

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- For each public hearing, applicants will be provided 5 minutes for a presentation.
- DPCD staff will be provided 3 minutes to discuss public hearing memo.
- Members of the public will be provided time to comment.
- Board members will discuss each docket and may vote.

#### ATTACHMENTS:

Type	File Name	Description
Reference Material	Agenda_Item_1_-_Memo_to_ARB_re_Docket_#3602_07-02-20.pdf	Memo to ARB re Docket #3602 07-02-20
Reference Material	Agenda_Item_1_-_Memo_to_ARB_re_Docket_#3602_05-14-20.doc	Memo to ARB re Docket #3602 05-14-20
Reference Material	Agenda_Item_1A_-_Memo_to_ARB_re_Review_of_New_Material_Submissions_01-21-20.pdf	Memo to ARB re Review of New Material Submissions 01-21-20
Reference Material	Agenda_Item_1B_-_EDR_Public_Hearing_Memo_Docket_#3602_1207-1211_Mass_Ave_Final.pdf	EDR Public Hearing Memo Docket #3602 1207-1211 Mass Ave. Final
Reference Material	Agenda_Item_1C_-_Memo_to_ARB_from_E._Zwirko_re_Special_Permit_filing_fee_08-07-19.pdf	Memo to ARB from E. Zwirko re Special Permit filing fee 08-07-19
Reference Material	Agenda_Item_1F_-_Application_Materials_Submitted_06-21-19.pdf	Application Materials Submitted 06-21-19



Reference Material	Agenda_Item_1G_-_Application_Materials_Submitted_01-21-20_-.pdf	Application Materials Submitted 01-21-20
Reference Material	3602_Plan_Set_Received_6-25-20_part_1.pdf	NEW Docket #3602 Plan Set Received 6-25-20 Part 1
Reference Material	3602_Plan_Set_Received_6-25-20_part_2.pdf	NEW Docket #3602 Plan Set Received 6-25-20 Part 2
Reference Material	3602_Updated_062420_1207-1211_Mass_Avenue_(Part_1).pdf	NEW Docket #3602 Updated 062420 1207-1211 Mass. Ave. Part 1
Reference Material	3602_Updated_062420_1207-1211_Mass_Avenue_(Part_2).pdf	NEW Docket #3602 Updated 062420 1207-1211 Mass. Ave. Part 2
Reference Material	Correspondence_Received_062920_for_3602_LeRoyer_Comments_on_Hotel_June_29__2020.pdf	NEW Correspondence from A. LeRoyer received 062920
Reference Material	Correspondence_from_B._McCauley_received_07022020.pdf	Correspondence from B. McCauley received 07022020
Reference Material	Correspondence_from_D._Seltzer_with_Attachment_received_05_01_2020.pdf	Correspondence from D. Seltzer with attachment received 05012020
Reference Material	Correspondence_from_C._Knight_received_070220.pdf	Correspondence from C. Knight received 07022020
Reference Material	Correspondence_from_D._Seltzer_received_05182020.pdf	Correspondence from D. Seltzer received 05182020
Reference Material	Correspondence_received_from_D._Seltzer_050120_.pdf	Attachment from D. Seltzer received 05012020
Reference Material	Docket_3625_882-892_Mass_Ave_Application_Materials.pdf	NEW Docket #3625 882-892 Mass Ave Application Materials
Reference Material	Combined_Application_Materials_-_updated_5-7-20.pdf	Docket #3625 882-892 Mass. Ave. Application 5-7-20 update
Reference Material	3625_Arlington__Mass_Ave_882-892_deed__plan.pdf	NEW Docket #3625 Arlington, Mass Ave 882-892 deed & plan
Reference Material	3625_2020-06-23_Building_Compare.pdf	NEW Docket #3625 2020-06-23 Building Comparison
		NFW Docket



Reference Material	3625_2729-01_Layout_Plan_Color.pdf	#3625 2729-01 Layout Plan Color
Reference Material	Correspondence_from_A._Bagnall_received_0518020.pdf	Correspondence from A. Bagnall received 05182020
Reference Material	Correspondence_from_B._Elliott_received_05182020.pdf	Correspondence from B. Elliott received 05182020
Reference Material	Correspondence_from_B._Rubin_received_05182020.pdf	Correspondence from B Rubin received 05182020
Reference Material	Correspondence_from_C._Klein_with_attachment_received_05162020.pdf	Correspondence from C. Klein with attachment received 05162020
Reference Material	Attachment_from_C._Klein_received_05162020.pdf	Attachment from C. Klein received 05162020
Reference Material	Correspondence_from_D._Seltzer_received_05112020.pdf	Correspondence from D. Seltzer received 05112020
Reference Material	Correspondence_from_D._Seltzer_with_attachments_received_0514020.pdf	Correspondence from D. Seltzer with attachments received 05 14 2020
Reference Material	Attachment_1_from_D._Seltzer_received_05142020.pdf	Attachment 1 from D. Seltzer received 05142020
Reference Material	Attachment_2_from_D._Seltzer_received_05142020.pdf	Attachment 2  from D. Seltzer received 05142020
Reference Material	Attachment_3_from_D._Seltzer_received_05142020.pdf	Attachment 3 from D. Seltzer received 05142020
Reference Material	Correspondence_from_E._Pyle_received_05182020.pdf	Correspondence from E. Pyle received 05182020
Reference Material	Correspondence_from_H._Helson_received_05182020.pdf	Correspondence from H. Helson received 05182020
Reference Material	Correspondence_from_M._Varoglu_received_05172020.pdf	Correspondence from M. Varoglu received 05172020
Reference Material	Correspondence_from_P._Worden_with_attachment_received_051820.pdf	Correspondence from P. Worden with attachment received 05182020
Reference Material	Attachment_from_P._Worden.pdf	Attachment from P. Worden received 05182020



Reference  
Material Correspondence\_from\_Z.\_Brown\_received\_05182020.pdf

05182020  
Correspondence  
from Z. Brown  
received  
05182020





**Town of Arlington, Massachusetts**  
Department of Planning & Community Development  
730 Massachusetts Avenue, Arlington, Massachusetts 02476

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**Public Hearing Memorandum**

*The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.*

**To:** Arlington Redevelopment Board

**From:** Jennifer Raitt, Secretary Ex Officio

**Subject:** Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA  
Docket #3602

**Date:** July 2, 2020

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This memo is provided as an update to the last memo provided on May 14, 2020. The following items have been provided relative to this application:

1. The applicant provided an updated Traffic Impact and Access Study which was conducted in February 2020 and finalized in June 2020 by BSC Group. The study addresses key intersections in relation to this proposal as well as potential impacts on adjacent streets. The conclusion notes that the level of impact to streets and study area intersections is minimal and mitigation would not be needed.

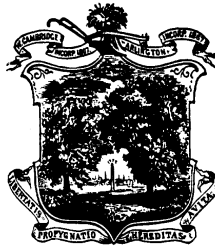
The study notes the issues related to an area intersection. The Select Board formed a committee to study that intersection at Mass Ave and Appleton Street to devise solutions to address longstanding safety concerns. We can anticipate short-term roadway improvements while also awaiting long-term solutions. These solutions are likely to be beneficial to this intersection and subsequently to help address any increased traffic volume, pedestrians, and bicyclists.

2. The applicant provided a letter regarding available spaces for employees. The applicant did not provide any letter regarding layover parking for tour buses; Both the employee and tour bus shared parking agreements need to be incorporated into an amended Transportation Demand Management proposal.



3. The plans illustrate where patrons are dropped off and picked up. The plans also illustrate where and how delivery vehicles will load and unload, as well as the turning radius onto Clark Street from the project site.
4. The applicant provided a letter regarding the floor area ratio (FAR). The applicant has not provided calculations specific to the bonus provisions or open space.
5. The applicant provided a grading plan with spot elevations. The shadow study was updated according to those spot elevations.
6. The applicant provided an update plan showing sidewalk upgrades adjacent to the curb cut on Clark Street.
7. The applicant eliminated the secondary signage on Clark Street.
8. The applicant provided a photometric plan based on three lighting fixtures. Specifications are in the plan schedule.





**Town of Arlington, Massachusetts**  
Department of Planning & Community Development  
730 Massachusetts Avenue, Arlington, Massachusetts 02476

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**To:** Arlington Redevelopment Board

**From:** Jennifer Raitt, Secretary Ex Officio

**Subject:** Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA  
Docket #3602

**Date:** May 14, 2020

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This memo is provided as an update to the last memo provided on January 21, 2020. The following items have been requested and remain outstanding in relation to this application:

1. The Board requested an improved traffic study with a focus on Mass Ave, Lowell, Appleton, Forest, and the neighborhood adjacent to the project site, to determine how the use may impact circulation in the area, and to complete the study when school is in session (this last item is now hindered by the COVID-19 pandemic).
2. Provide updated plans or documents showing the following items:
  - a. Offsite shared parking agreement for employees;
  - b. Offsite shared parking agreement for tour buses;
  - c. Passenger and delivery loading and unloading, including showing the turning radius onto Clark Street from the project site;
  - d. Floor area ratio (FAR) calculation for the building, bonus, and open space;
  - e. Updated shadow study and updated elevations based upon a topographical study and site survey.
  - f. Plans for sidewalk upgrades adjacent to the curb cut on Clark Street.
  - g. Elimination or revision to secondary signage on Clark Street.
  - h. A detailed exterior lighting plan.





**Town of Arlington, Massachusetts**  
Department of Planning & Community Development  
730 Massachusetts Avenue, Arlington, Massachusetts 02476

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## Public Hearing Memorandum

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**To:** Arlington Redevelopment Board

**From:** Jennifer Raitt, Secretary Ex Officio

**Subject:** Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA Docket #3602

**Date:** January 21, 2020

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Since the initial public hearing on July 22, 2019, the Department of Planning and Community Development (DPCD) staff and members of the Arlington Redevelopment Board (ARB) have provided feedback to the applicant, Jim Doherty, in relation to the above-noted Docket in different formats, including at the public hearing session, emails, and in-person meetings. This memo documents how the materials submitted by the applicant are responsive. Attached to this memo is correspondence that Attorney Winstanley-O'Connor responds to in her letter dated January 21, 2020.

1. Conduct a traffic study, with a focus on Mass Ave, Lowell, Appleton, Forest, and the neighborhood adjacent to the project site, determine how the use may impact circulation in the area, and complete the study when school is in session.

*An overview of traffic information prepared by BSC Group was submitted by the applicant. This overview provides a good basis for understanding the potential trip generation of the mixed-use structure; however, it does not include an analysis of area circulation. It also does not provide an analysis of area intersections and does not provide any recommendations on how the trips generated by the proposal may be mitigated.*

*The overview by BSC Group notes that right turns onto Clark Street from the parking area will not occur as the parking will be controlled by the valet staff.*



2. Show parking onsite and document any offsite parking for employees and tour buses.

*The materials provided on January 21, 2020, indicate some adjustments were made to the garage parking and the surface parking to the rear of the building to accommodate moving the dumpster away from Clark Street. In the garage, four spaces were gained by adjusting the size of the parking spaces which are complaint with the Zoning Bylaw and slighting oversized. Five spaces were reduced in surface parking to provide an adequate size drive aisle for two-way traffic and access to the dumpster. At its narrowest, the two-way drive aisle does not comply with the required 24 feet, but it is noted that access is only available to valet and other delivery services in order to minimize vehicular conflicts.*

*No additional information has been provided regarding employee parking and tour bus parking. A reference to the Mill Brook Animal Clinic offering to provide additional off-site parking was made, but no formal documentation of a shared parking agreement has been provided.*

3. Identify where and how passenger and delivery loading and unloading will occur, and determine whether delivery vehicles have the adequate turning radius onto Clark Street from the project site.

*As noted above, the surface parking at the rear of the site was adjusted to provide more adequate space for loading and unloading of deliveries. The materials submitted on January 21, 2020, indicate that single-unit box trucks and smaller vehicles will be making deliveries to the site at the rear of the building. Additionally the dumpster was moved from Clark Street frontage to the interior of the site. However, no documentation is provided to illustrate the turning radii of the types of vehicles that would typically enter and exit the project site to make deliveries, so the feasibility of this could not be assessed.*

*The addition of the circular driveway off of Mass Ave will facilitate passenger loading and unloading outside of the public right-of-way limiting conflicts between pedestrians, bicycles, and other vehicles on Mass Ave. This is a better solution than the cut out of the sidewalk originally proposed. Outside of business hours, the circular driveway could be used for deliveries as well.*

4. Provide information on the valet parking plan.

*The information provided by BSC Group indicates that all parking onsite will be controlled by valet staff and there is no self-parking. There is no information about offsite parking provided.*



5. Calculate the floor area ratio (FAR) for the building and the bonus and open space.

*Exhibit A to Attorney Winstanley-O'Connor's memo is an accounting of the FAR for the building and how the bonus provisions of Section 5.3.6 apply to the proposal. Exhibit B to Attorney Winstanley-O'Connor's memo is an accounting of open space calculations.*

6. Share a marketing study of similar hotels, including hotel operators, customer base, rack rates, and amenities.

*The applicant has indicated that this information is proprietary and is not relevant to the relief being sought.*

7. Re-evaluate the shadow study previously submitted to consider the existing shadows and provide a comparison and determine any impact to solar arrays in the neighborhood.

*The plan set includes an updated shadow study based on the new building. The plan set also includes a shadow study documenting the existing conditions of the building and shows trees at the rear of the site.*

*Two properties with solar panels have been identified as 18 Pierce Street and 24 Clark Street. The property at 24 Clark Street is beyond the reach of the proposal's shadows, but it appears that the early afternoon shadow on the Winter Solstice will affect 18 Pierce Street.*

8. Submit a revised LEED Checklist and make some assumptions to bring the credits up.

*An updated LEED Checklist has been provided. The score has increased from 21 points to 52 points.*

9. Show ADA accommodations in parking lot and along the Mass Ave frontage.

*One accessible parking space has been designated in the rear surface parking lot. The reference to ADA accommodations along the frontage refers to the original version of the proposal which included a cut out in the sidewalk to provide a wider shoulder for loading and unloading.*

10. Show any plans for sidewalk enhancement on Clark Street.

*The plan set illustrates how the at-grade open space on the lot will be improved and activated and that a concrete sidewalk will be extended around the hotel on Clark Street. Further detail was not provided.*



11. Improve the design of roof top mechanicals and kitchen venting.

*The rendering shows more roof top mechanical equipment, but no roof plan was submitted or specifications for the roof top mechanical equipment or kitchen venting. The memo from Attorney Winstanley-O'Connor indicates that the final locations will be determined at a later stage.*

12. Revisit the quantity and placement of louvers on the main façade of the building.

*The louvers proposed on the façade have been eliminated.*

13. Show additional bike parking at the front of the hotel.

*Parking racks are proposed on Mass Ave rather than off of Clark Street in the current plan set. Relocating the bicycle parking to the main frontage is an improvement.*

14. Re-evaluate the façade elevations including the materials proposed for the façade, the hierarchy between the restaurant and hotel entrances, the sliding doors on the fourth floor of the building, windows on the Clark Street elevation, and screening for the rear deck.

*The materials proposed for the façade have been updated to reflect comments made by two members of the ARB who provided detailed feedback. The materials proposed now include brick, masonry, and clapboard panels, and the use of such materials is specified on the elevations.*

*The plan set has been revised to make the hotel entrance more prominent than the restaurant entrance.*

*Sliding doors are still proposed for the fourth floor hotel units.*

*The Clark Street elevation has been revised.*

*The rear deck has been eliminated from the proposal.*

15. Re-evaluate the restaurant space planning and the location of the hotel gym.

*The plan set has been revised to show no seating or space usage in the restaurant in response to a question regarding the accuracy of the seat count. Note that while the parking requirement for restaurants is based on the seat count, in mixed-use structures such as this one, the first 3,000 square feet of space is exempt from meeting the parking requirement. The restaurant is proposed at 2,816 square feet.*



*In the original proposal, the location of the gym required hotel guests to leave the interior of the building and then reenter the building elsewhere to access the gym. In this submission, the gym has been eliminated from the proposal.*

16. Re-evaluate the secondary signage on Clark Street.

*A wall sign remains on the Clark Street elevation for the restaurant.*

17. Provide more details on the proposed lighting.

*Attorney Winstanley-O'Connor's memo notes that the lighting will be energy efficient LED low profile lighting. Deflectors and other technology will be utilized, and a photometric study will be prepared prior to installation. The ARB may desire to see that photometric plan as well as lighting specifications to understand the type of fixtures to be used for the proposal and how it may or may not impact abutters.*

Attachment:

1. Memo to Jim Doherty dated January 7, 2020.





**TOWN OF ARLINGTON**  
DEPARTMENT OF PLANNING and  
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE  
ARLINGTON, MASSACHUSETTS 02476  
TELEPHONE 781-316-3090

**MEMORANDUM**

To: Jim Doherty, Trustee, 1211 Mass Ave Realty Trust

From: Jennifer Raitt, Director of Planning and Community Development

cc: Mary Winstanley-O'Connor, Esq.

Date: January 7, 2020

Re: Docket #3602, 1207-1211 Massachusetts Avenue supplemental materials and follow-up

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Thank you for your submission of materials to my office on January 2, 2020 per my most recent memo and requests. The Department of Planning and Community Development (DPCD) staff reviewed the materials received, dated December 12, 2019, and note that they are an updated plan set that illustrates changes made to the site and the building in the intervening time since the public hearing in the summer 2019 based on feedback from staff and ARB members. This memo documents how the submitted materials respond to items outlined and annotated in two emails sent to you following the initial public hearing on this project on July 22, 2019.

In an email from Erin Zwirko, Assistant Director, to you dated July 24, 2019, the staff enumerated the items that were requested by the Arlington Redevelopment Board (ARB) members during the initial public hearing session:

1. Traffic Study, with a strong focus on Mass Ave, Lowell, Appleton, Forest, and the neighborhood behind the project site and circulation in the area, and completed when school is back in session;

*DPCD has not yet received a traffic study.*

2. Parking onsite, and any offsite parking for employees and tour buses;

*The materials provided on January 2, 2020, indicate some adjustments were made to the garage parking and the surface parking to the rear of the building to accommodate moving the dumpster away from Clark Street. In the garage, four spaces were gained by adjusting the size of the parking spaces; however, no dimensions are provided making compliance with the Zoning Bylaw difficult to determine. Five spaces were reduced in surface parking, presumably to provide an adequate size drive aisle for two-way traffic and access to the dumpster, but no dimensions are provided to document compliance with the Zoning Bylaw. Overall, moving the dumpster away from Clark Street is an improvement.*

*No additional information has been provided regarding employee parking and tour bus parking. There was reference to the Mill Brook Animal Clinic offering to provide additional off-site parking, but no formal documentation of a shared parking agreement has been provided.*



3. Loading and unloading and deliveries, where and how will it happen and determining if vehicles have the ability to turn onto Clark Street and into the project site;

*As noted above in what we have received relative to item 1 (Traffic Study), the surface parking at the rear of the site was adjusted to presumably provide more adequate space for loading and unloading of deliveries.*

*The addition of the circular driveway off of Mass Ave will facilitate passenger loading and unloading outside of the public right-of-way limiting conflicts between pedestrians, bicycles, and other vehicles on Mass Ave. This is a better solution than the cut out of the sidewalk originally proposed. Outside of business hours, the circular driveway could be used for deliveries as well.*

4. Accounting of the FAR for the building and the bonus;

*DPCD has not received an updated accounting of the FAR for the building and how the bonus provisions of Section 5.3.6 apply to the proposal.*

5. Open space calculations;

*DPCD has not received updated open space calculations.*

6. Marketing study of similar hotels you've identified, including who operates these hotels, their customers, rack rates, amenities, etc.;

*DPCD has not received a marketing study for similar hotels in the greater Boston area.*

7. Take another look at your shadow study, consider the existing shadows and provide a comparison and determine any impact to solar arrays in the neighborhood;

*The plan set includes an updated shadow study based on the new building. The plan set also includes a shadow study documenting the existing conditions of the building and shows trees at the rear of the site. The updated materials do not identify if any of the adjacent buildings have solar arrays installed.*

8. Reconsider the LEED Checklist and make some assumptions to bring the credits up;

*DPCD has not received an updated LEED Checklist.*

9. ADA accommodations in parking lot and along frontage; and

*One accessible parking space has been designated in the rear surface parking lot. The reference to ADA accommodations along the frontage refers to the original version of the proposal which included a cut out in the sidewalk to provide a wider shoulder for loading and unloading.*

10. Better understanding of roof top mechanicals and kitchen venting.

*The rendering shows more roof top mechanical equipment, but no roof plan was submitted or specifications for the roof top mechanical equipment or kitchen venting.*



In an email forwarded from Erin Zwirko to you dated July 29, 2019, an ARB member provided comments on the proposal including:

1. Prepare a full transportation plan to understand the impact on the intersection with Appleton/Mass Ave and the adjacent secondary streets. Consider the public recommendation of restricting right turns onto Clark;

*DPCD has not yet received a transportation plan.*

2. What are the plans for sidewalk enhancement on Clark around the hotel?

*The plan set illustrates how the at-grade open space on the lot will be improved and activated; however, there is not information regarding sidewalk enhancements on Clark Street.*

3. Currently no bike parking is shown at the front of the hotel for restaurant guests. What dayparts is the restaurant open for? Only dinner? Or breakfast and lunch? Think about public need for bike parking for the dining space based on daypart.

*Parking racks are proposed on Mass Ave rather than off of Clark Street in the current plan set. Relocating the bicycle parking to the main frontage is an improvement.*

4. What is the plan for deliveries and loading/unloading of buses? Restricted hours?

*DPCD has not received detailed information about deliveries and loading or unloading of buses. The circular driveway and adjustments to the rear surface parking lot might accommodate these functions better, but there is not documentation or dimensions to determine compliance with the Zoning Bylaw.*

5. Please detail the hotel valet parking plan proposed to include offsite parking to mitigate the differential between number of hotel rooms, staff, restaurant patrons, and parking spaces.

*DPCD has not received a detailed hotel valet parking plan.*

6. Please take another look at the materials proposed for the facade. The stucco and metal panel proposed are not materials that are found in the neighborhood of businesses in the Heights or Arlington Center and are not contextually appropriate nor are they appropriate for the level of Boutique Hotel that has been expressed as the operational/marketing intent. I would suggest that you take another look at the precedents that were cited in the application and come back with a more contextually appropriate facade design. Think about masonry, clapboard, and other more appropriate materials.

*The materials proposed for the façade have been updated to reflect comments made by two members of the ARB who provided detailed feedback. The materials proposed now include brick, masonry, and clapboard panels. However, detailed information regarding the materials is not provided.*

7. The quantity and placement of louvers on the main facade of the building are concerning and should be revisited.

*The louvers proposed on the façade have been eliminated.*



8. Think about the hierarchy between the Restaurant and Hotel entrances. Currently they are both rendered identically, when they have the opportunity to more individually present themselves.

*The plan set has been revised to make the hotel entrance more prominent than the restaurant entrance.*

9. The sliding doors on the front facade of the building on the 4th floor are not appropriate for the context of the neighborhood. If doors are proposed, consider swing doors. Similarly, the horizontal windows on the Clark St elevation are not contextually appropriate.

*Sliding doors are still proposed for the fourth floor hotel units. The Clark Street elevation has been revised.*

10. Restaurant planning - You are showing more seating than is achievable and you should accurately identify your potential seat count for the parking study. A good rule of thumb for a restaurant this size is dedicating 1/3 of the space to kitchen/BOH. As an example, currently there is no walk in shown cooler for the restaurant or enough dry storage. This will help mitigate some of the public concern about the number of seats.

*The plan set has been revised to show no seating or space usage in the restaurant space. Without knowing the number of seats proposed for the restaurant, DPCD cannot confirm the parking required per the Zoning Bylaw for the proposal.*

11. What are you planning for the deck on the rear of the building? is this seating? For the restaurant or the hotel lounge? Think about noise impact on the neighbors. Think also about whether they should look down onto the parking area. Should screening be incorporated? Wood? Vegetated?

*The rear deck has been eliminated from the proposal.*

12. It appears that the only access to the gym is to leave the interior of the building, walk across the parking area and into the gym under the restaurant. This does not seem like an ideal solution for your guests.

*The gym has been eliminated from the proposal.*

13. Reconsider the lit secondary signage on Clark St, especially if the parking is expected to be Valet and solely for the hotel staff and guests. If additional signage is proposed, perhaps a vertical banner or blade sign on the front facade to speak to approaching drivers on MA Ave would be more appropriate.

*A wall sign remains on the Clark Street elevation for the restaurant.*

14. Come back with more details on the proposed lighting under the overhang on Mass Ave (above outdoor seating) and in the parking garage under the building as this will spill over into the neighborhood.

*DPCD has not received information on the proposed lighting or how it may or may not impact abutters.*



Please provide us with a response to the above-noted items that we have not yet received by January 20<sup>th</sup>.

Should you have any questions regarding this feedback, please contact my office at 781-316-3092 or by email.

Thank you.





**Town of Arlington, Massachusetts**  
Department of Planning & Community Development  
730 Massachusetts Avenue, Arlington, Massachusetts 02476

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**Public Hearing Memorandum**

*The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.*

**To:** Arlington Redevelopment Board

**From:** Jennifer Raitt, Secretary Ex Officio

**Subject:** Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA  
Docket #3602

**Date:** July 16, 2019

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**I. Docket Summary**

This is an application by James F. Doherty for 1211 Mass Ave Realty Trust to construct a mixed-use structure at 1207-1211 Massachusetts Avenue within the B2 Neighborhood Business District and the B4 Vehicular Oriented Business District. The Special Permit is to allow the Board to review and approve the proposed project, under Section 3.4, Environmental Design Review.

Following the Town's Request for Proposals (RFP) process in 2016, the applicant has entered into a Purchase & Sale (P&S) Agreement to purchase the property at 1207 Massachusetts Avenue in order to construct the mixed-use building, which is desirable to the Town. 1207 Massachusetts Avenue is the location of the now closed Disabled American Veterans (DAV) club, which ceased operations and has been vacant since mid-2014. The applicant currently owns the immediately adjacent property at 1211 Massachusetts Avenue, and upon successful permitting, will combine the two properties for a unified mixed-use development.

The RFP sought proposals for the purchase and future use of the parcel as a mixed-use development consistent with 2016 amendments to the Arlington Zoning Bylaw, that defined mixed-use as "[a] Combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication,



residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live-work environment.” The applicant proposes a 50-room hotel and restaurant consistent with this definition of mixed-use.

The application also requests a parking reduction under Section 6.1.5 and additional gross floor area under Section 5.3.6.

Materials submitted for consideration of this application:

- Application for EDR Special Permit,
- Narrative,
- Site Plan, Floor Plans, Elevations, and Renderings dated June 20, 2019;
- Planting Schedule;
- Parking and Bicycle Schedule;
- Shadow Study dated June 20, 2019; and,
- Traffic Demand Management Plan.

## II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

### 1. Section 3.3.3.A.

**The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.**

The applicant proposes a mixed-use structure consisting of a 50-room hotel and restaurant. Mixed-use, which as defined by the Zoning Bylaw includes lodging and commercial uses, requires a Special Permit in both the B2 Neighborhood Business District and the B4 Vehicular Oriented Business District. Mixed-use is additionally subject to Environmental Design Review under Section 3.4.G and due to the proposal’s location on Massachusetts Avenue. Mixed-use is described as being allowed in Section 5.5.1 for both the B2 and B4 Districts, in particular in the B4 District when automotive-oriented uses close and are redeveloped. The Board can find that these conditions exist for the proposed project site.

### 2. Section 3.3.3.B.

**The requested use is essential or desirable to the public convenience or welfare.**

The redevelopment of the DAV site and the adjacent outdated automotive use is desirable for the public convenience and welfare. The mixed-use structure, which combines a small boutique hotel and restaurant, is well-positioned to take advantage of tourism opportunities along the Battle Road Scenic Byway, the approximate path the British used at the beginning of the American Revolution, in Arlington and neighboring communities. A hotel and restaurant in the immediate area could be desirable to tour groups that want more personalized accommodations. There is an economic benefit that would be gained through the hotel/motel tax (6%) and meals tax (0.75%). Based on current tax revenue generated by the one hotel in Town, this



50-room hotel may generate up to approximately \$150,000 of additional tax revenue to the town on an annual basis.<sup>1</sup> The proposed hotel's proximity to Lexington, which welcomes over 100,000 tourists per year, makes it well-positioned to absorb some of the local and regional heritage and business travel, which would provide an economic benefit to the Town of Arlington and local businesses. Neighborhood residents have voiced the critical importance for more restaurants and mixed-use based on feedback gathered from residents as well as a market demand analysis that were part of the development of the Arlington Heights Neighborhood Action Plan.

**3. Section 3.3.3.C.**

**The requested use will not create undue traffic congestion or unduly impair pedestrian safety.**

The application materials do not provide detailed information regarding the traffic impact of the new use. The ARB must request additional information from the applicant on the following topics before determining that this criterion is satisfied.

The project's only means of ingress and egress is on Clark Street as the existing curb cuts on Massachusetts Avenue will be closed. Due to the new uses, a trip generation analysis is needed to understand the traffic flow and circulation of using Clark Street as the main point of access to the property. For vehicles exiting the property, turning right directs those vehicles into a residential neighborhood and a circuitous route back to Massachusetts Avenue or to Forest Street. The best course of action may be to require vehicles exiting the property to turn left onto Clark Street and then continue either north or south on Massachusetts Avenue, and the ARB will want to consider this as a condition of a decision. By adding more turning traffic to the intersection of Clark Street and Massachusetts Avenue there may be the need to address pedestrian safety at this intersection. On the opposite side of the street is an inbound MBTA Route 77 and 79 bus stop with departures every few minutes, so a cross walk may be necessary at the intersection as the closest cross walk is at Appleton Street. However, without a trip generation analysis, the ARB does not have the full scope of understanding regarding additional traffic as a result of the proposed project.

The nearby intersection of Appleton Street and Massachusetts Avenue is uncontrolled except for when a pedestrian triggers a red light in order to cross the street. A large majority of the pedestrians at this intersection are students walking to or from the Ottoson Middle School. More information is needed from the applicant on how the introduction of a hotel and restaurant could affect the operation of this intersection, especially during the beginning and end of the school day during the school year.

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<sup>1</sup> According to the Town of Lexington's most recent Economic Development Report to Town Meeting, the Town of Lexington generates an average of \$1.27 million dollars of revenue in hotel/motel taxes.



Additionally, the Transportation Demand Management (TDM) Plan submitted in support of the parking reduction request needs firm commitments regarding the methods in which vehicular use will be reduced at the property. The applicant should also consider providing staff subsidized transit passes and guaranteed rides home. Commitments such as these must be required in any future lease of the building. Finally, the plans show an area to pull off of Massachusetts Avenue which could facilitate valet parking, and could be supported, but this would require approval from the Select Board.

It should be noted that the proposal will improve pedestrian safety along the project site's Massachusetts Avenue frontage. Two large curb cuts will be closed as access to the property will be from Clark Street, where the curb cut will be narrowed.

**4. Section 3.3.3.D.**

**The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.**

The mixed-use structure introduces different uses than presently on the project site. There may be different demand on the municipal systems as a result, but will not create hazards affecting health, safety, or the general welfare of the immediate area or in any other area of the Town. While the application materials note that a stormwater system will be installed to control roof and surface stormwater runoff, the ARB will need more information regarding water and sewer usage. The applicant should submit evidence that the public water, drainage, and sewer system are capable of handling the needs of the 50-room hotel and restaurant.

**5. Section 3.3.3.E.**

**Any special regulations for the use as may be provided in the Bylaw are fulfilled.**

No special regulations are applicable to the proposal. The Board can find that this condition is met.

**6. Section 3.3.3.F.**

**The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.**

The 2016 Annual Town Meeting adopted mixed-use zoning for all business districts with an affirmative vote of 187-35. This stretch of Massachusetts Avenue does not have a distinct aesthetic and there are no predominant architectural styles that characterize this area. The proposed mixed-use structure will not impair the integrity of the district and will provide connections between the Arlington Heights business district and other segments of the Mass Ave commercial corridor. The hotel use in particular will provide greater access for tourists to Arlington's historic



resources that make it part of the Battle Road Scenic Byway, including the nearby Foot of the Rocks monument and the Old Schwamb Mill.

The immediate area around the project site is a mix of residential and commercial spaces. Immediately behind the project site is a neighborhood of mostly single- and two-family homes in an R2 Two-Family District. Higher density residential uses are present across the street on Massachusetts Avenue, but the R2 District carries across Massachusetts Avenue as well where significant elevation is gained. The Heights business district is a short distance away (about 1,500 feet to the west) and an industrial-zoned area is less than 1,000 feet to the east.

**7. Section 3.3.3.G.**

**The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.**

The use will not be in excess or detrimental to the character of the neighborhood. The Board can find that this condition is met.

**III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)**

**1. EDR-1 Preservation of Landscape**

**The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.**

The existing site condition is primarily impervious, but the proposal will increase the amount of open space on the site. A 5-foot landscaped buffer is provided along the rear property line that will be planted with tree lilacs, arborvitae, and smaller shrubs such as hydrangea and holly. Planters along Massachusetts Avenue are also proposed. While a planting schedule is provided, a landscape plan must be submitted. The application materials indicate that there will be 1,581 square feet of landscaped open space and 3,384 square feet of usable open space. The landscape plan should also document where the two types of open space will be satisfied on the property.

**2. EDR-2 Relation of the Building to the Environment**

**Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.**

At 4 stories and 44 feet tall, the proposed building is taller than most of the buildings in the immediate vicinity. On the opposite side of Massachusetts Avenue, the terrain



quickly gains elevation, so nearby buildings appear much taller due to the elevation change. The proposal also steps in the first floor 8 inches from the second and third floor, and provides the upper-story step back at the top of the third floor at 34 feet. Section 5.3.17 requires that building more than three stories in height, such as the proposal, an additional 7.5-foot step-back (upper story building setback) shall be provided beginning at the third story level or 30 feet above grade, whichever is less. As part of the EDR jurisdiction, these requirements should be further addressed until the Board is satisfied that the building is well-situated on the parcels.

The building does not trigger the height buffer area of Section 5.3.19 because it is proposed at the lower maximum stories and height as identified in the Table of Dimensional and Density Requirements for the Business Districts. However, the application materials also provide a shadow study during each season at the respective Solstice and Equinox.

**3. EDR-3 Open Space**

**All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.**

As noted above, the proposed project will provide open space on the existing primarily impervious site. The application materials indicate that there will be 1,581 square feet of landscaped open space and 3,384 square feet of usable open space. Landscaped buffers will be located at the rear of the property providing some relief to the residential structures located behind the project site. A large patio along Massachusetts Avenue is proposed, which can create gathering space and an inviting atmosphere along the sidewalk. A landscape plan must be submitted and must document where the two types of open space will be satisfied on the property in order to assess compliance with this criterion.

**4. EDR-4 Circulation**

**With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.**



The application materials indicate that 28 parking spaces will be provided on the site, either under the building or at the rear of the property. The applicant has requested a parking reduction under Section 6.1.5:

<b>Parking Requirement</b>			
		<u><b>Zoning Requirement</b></u>	<u><b>Total Parking Required</b></u>
<b>Hotel</b>	<b>50 rooms</b>	<b>1 space per room</b>	<b>50</b>
<b>Restaurant</b>	<b>2,568 sf</b>	<b>1/300 sf*</b>	<b>0</b>
<b>Total Parking</b>			<b>50</b>
<b>Section 6.1.5 Reduction</b>			<b>Up to 25% of the requirement, or 13 spaces</b>
<b>Total Parking Provided</b>			<b>28</b>
* First 3,000 sf of non-residential space in mixed-use projects is exempt.			

In general, as discussed under the response to criterion 3.3.3.C, there is no information about circulation on and around the project site. The only access to the property is from Clark Street and there is no information on how trips to and from the project site will change. A trip generation analysis is needed to understand the traffic flow and circulation of using Clark Street as the main point of access to the property. A trip generation analysis may indicate that right turns from the property onto Clark Street should be restricted and there may be the need for pedestrian improvements at the intersection of Clark Street and Massachusetts Avenue due increased traffic.

On the project site, there is no information on where loading and unloading will occur. Based on the application materials, there is no information on the size of truck that can access the project site and whether vendors need to be limited to a certain size truck in order to navigate Clark Street and the parking lot. Additionally, the floor plan does not seem to provide direct loading access to the restaurant's kitchen or the hotel from the rear parking lot. If loading and unloading will occur on Massachusetts Avenue, it is not clear whether there is shoulder space for a large truck to park during these activities. To combat idling and disruption to the surrounding neighborhood, deliveries should be limited to certain hours of the day.

Circulation within the parking lot is not clearly discussed. Some of the parking spaces provided are tandem spaces and it is not clear how the spaces will be assigned or allocated between the hotel and restaurant. If the parking spaces will be used primarily by the hotel, the ARB needs an understanding of the on-street parking utilization of the area. Additionally, there is no information in the applicant materials regarding the safety and security of the proposed parking area other than 12-foot



light poles. It will be important for the ARB to understand how the spaces will be utilized on the property.

Additionally, the Transportation Demand Management (TDM) Plan submitted in support of the parking reduction request needs firm commitments regarding the methods in which vehicular use will be reduced at the property. The Applicant could also consider providing staff subsidized transit passes and guaranteed rides home. Commitments such as these must be required in any future lease of the building. Finally, the plans show an area to pull off of Massachusetts Avenue which could facilitate valet parking, and could be supported, but this would require approval from the Select Board.

It should be noted that the proposal will improve pedestrian safety along the project site's Massachusetts Avenue frontage. Two large curb cuts will be closed as access to the property will be from Clark Street, where the curb cut will be narrowed.

The application materials indicate that proposal exceeds the requirements of the newly adopted bicycle parking bylaw. For the mixed-use building, 5 short-term bicycle parking spaces are required and 2 long-term bicycle parking spaces are required. The proposal exceeds this requirement by providing 7 short-term spaces and 7 long-term spaces. However, the application materials do not provide any specifications of the proposed racks, and the location of the short-term spaces is inconsistent between the plan set and renderings and the written information. The ARB should request additional information.

**5. EDR-5 Surface Water Drainage**

**Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas.**

**In accordance with Section 3.3.4., the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do.**



**The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.**

The application materials only indicate that a subsurface infiltration system will be provided under the parking lot to control surface and roof runoff. There are no further details provided in the application materials. The applicant must submit an engineered site plan showing surface water drainage systems and a stormwater management plan that includes an analysis that will inform the size of an underground infiltration system and includes engineering plans for the system. It is also strongly recommended that the applicant include low impact development techniques such as creating a rain garden or other similar feature in the landscape area in the northeast corner of the property.

**6. EDR-6 Utilities Service**

**Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.**

The application materials indicate that the new utilities will be underground, but the ARB will want additional information from the applicant on whether any of the existing utilities that serve the site will be reused. It should be noted that there are three utility poles (one of which is a double pole) along the Massachusetts Avenue frontage. Although requests to move or consolidate utility poles are often not accepted by the utility companies, the applicant should attempt to coordinate with the utility company to at least remove the double pole and consolidate the operations to the other two poles as the poles and lines interfere with the structure's visibility. The ARB will want to understand that the services carried on these poles will not be overloaded.

**7. EDR-7 Advertising Features**

**The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.**

The signage proposed in the application materials are place holders for the mixed-use structure. However, the proposal appears to be consistent with the newly adopted sign bylaw in terms of location and size. The application materials indicate that the signage will be back lit, but there is no information in the application materials about lighting of the building in general. A condition of a decision by the ARB should include a requirement that the final signage be reviewed for compliance.



**8. EDR-8 Special Features**

**Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.**

There will be equipment on the roof to service the mixed-use structure, and it appears that some of the equipment will be screened. Each hotel room has its own system and the louvers can be seen on the renderings. Although Arlington does not specify a certain noise level at the property line, many nearby communities identify a day-time noise level of no more than 65 dbA or no more than 10 dbA over the background noise level. Overnight, many nearby communities identify a noise level of 50 dbA. Using this as guidance, the applicant should clarify the noise impact of the HVAC and other noise-emitting equipment.

To reduce noise from deliveries or from solid waste removal, the ARB will want information on anti-idling measures and time of day restrictions to ensure that these services do not impact the surrounding residential properties.

The applicant should clarify how the dumpster will be screened and shared.

**9. EDR-9 Safety**

**With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.**

As noted in the application materials, the proposed interior layout plans have been designed to facilitate building evacuation and accessibility by fire, police, and other emergency personnel and equipment. The application materials indicate that the rear parking lot will be illuminated through the use of 12-foot pole mounted LED lights; however, there is no indication on the plans where these light poles would be located and the specification of such. Further, there is no information on how the open garage will be secured.

**10. EDR-10 Heritage**

**With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.**

The existing structures are not listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington* nor are they under the jurisdiction of



the Arlington Historical Commission. As such, the site contains no historic, traditional or significant uses, structures or architectural elements. The Board can find that this condition is met.

Two properties on the opposite side of Massachusetts Avenue (1210 Massachusetts Avenue and 1218-1222 Massachusetts Avenue) are under the jurisdiction of the Historical Commission. The redevelopment of the subject property will not disrupt historic, traditional, or significant uses, structures, or architectural elements that exist on the adjacent properties.

#### **11. EDR-11 Microclimate**

**With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.**

There are no proposed changes that will impact the microclimate. A shadow study was prepared and is provided in the application materials to illustrate how the building may create additional shadows in the immediate area. Although the project does not trigger the height buffer area, the ARB will want to assess to ensure that the Board is satisfied that the building is well-situated on the parcels.

#### **12. EDR-12 Sustainable Building and Site Design**

**Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.**

The Applicant indicates that the building will meet the Stretch Code. Additional information regarding the LEED Checklist is needed.

### **IV. Conditions**

#### **General**

1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board at the time when future operators are identified. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board



2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.
4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.
5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with Article 30 of Town Bylaws.
6. The Applicant shall provide a statement from the Town Engineer that all proposed utility services have adequate capacity to serve the development. The applicant shall provide evidence that a final plan for drainage and surface water removal has been reviewed and approved by the Town Engineer.
7. Upon installation of landscaping materials and other site improvements, the Applicant shall remain responsible for such materials and improvement and shall replace and repair as necessary to remain in compliance with the approved site plan.
8. Upon the issuance of the building permit the Applicant shall file with the Inspectional Services Department and the Police Department the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.





**TOWN OF ARLINGTON**  
DEPARTMENT OF PLANNING and  
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE  
ARLINGTON, MASSACHUSETTS 02476  
TELEPHONE 781-316-3090

**MEMORANDUM**

Date: August 7, 2019

To: Arlington Redevelopment Board

From: Erin Zwirko, Assistant Director, Planning and Community Development

cc: Jenny Raitt, Director, Planning and Community Development

RE: Docket 3602, 1207-1211 Massachusetts Avenue, Special Permit Filing Fee Waiver Request

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The Arlington Redevelopment Board (ARB) may vote to waive all or some of the Special Permit filing fee in cases where it is warranted. This memorandum provides background on the Special Permit filing fee for Docket 3602, 1207-1211 Massachusetts Avenue.

The Request for Proposals (RFP) issued by the Town in 2016 for the Town-owned property located at 1207 Massachusetts Avenue (also known as the Disabled American Veterans club) stated that:

*"The Town, through its Board of Selectmen and Town Manager, is seeking proposals for the purchase and future use of the parcel with highly advantageous bidders accepting a 40-year deed restriction to require mixed-use development of the property consistent with recent revisions to the Arlington Zoning Bylaws, and defined as "[a] Combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication, residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live-work environment." Such advantageous bidders shall receive waivers of building and special permit fees in additional consideration. [emphasis added]"*

The successful bidder, and now the applicant, proposed a project that spanned both 1207 and 1211 Massachusetts Avenue. Town Counsel advised that the Special Permit fees and the building permit fees would be waived for 1207 Massachusetts Avenue, but not for 1211 Massachusetts Avenue. Representatives from Inspectional Services and Planning and Community Development and Town Counsel determined that 50% of the total fee otherwise required for the specific mixed-use project at 1207-1211 Massachusetts Avenue would be an acceptable fee required for the Special Permit and future building permits.

The Environmental Design Review Special Permit filing fee is calculated as \$500 plus \$0.20 per square foot of new construction. The gross square footage of the building proposed at 1207-1211 Massachusetts Avenue is approximately 24,443 square feet (all new construction). Therefore, the total fee is calculated to be \$5,388.60. The Department of Planning and Community Development accepted a filing fee of \$2,694.30 or 50% of the total fee that would otherwise be required.

We recommend that Board accept this filing fee of \$2,694.30, by voting to waive the Special Permit filing fee for 1207 Massachusetts Avenue per the RFP.





TOWN OF ARLINGTON  
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design  
Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. \_\_\_\_\_

1. Property Address 1207 & 1211 Massachusetts Ave  
Name of Record Owner(s) 1211 MASS AVE Realty Trust\* Phone 781-640-2942  
Address of Owner 1122 MASS AV, ARLINGTON, MA 02476  
Street City, State, Zip

2. Name of Applicant(s) (if different than above) N/A Phone \_\_\_\_\_  
Address \_\_\_\_\_  
Status Relative to Property (occupant, purchaser, etc.) \_\_\_\_\_

3. Location of Property Parcels 58-11-1 & 57-4-14  
Assessor's Block Plan, Block, Lot No.

4. Deed recorded in the Registry of deeds, Book 5873, Page 485; 60543 439  
-or- registered in Land Registration Office, Cert. No. \_\_\_\_\_, in Book \_\_\_\_\_, Page \_\_\_\_\_

5. Present Use of Property (include # of dwelling units, if any) residential, Automotive,  
VACANT SOCIAL CLUB

6. Proposed Use of Property (include # of dwelling units, if any) MIXED-USE CONSISTING  
OF A FIFTY ROOM HOTEL AND RESTAURANT ON THE FIRST  
FLOOR.

7. Permit applied for in accordance with the following Zoning Bylaw section(s) 5.5.3 Mixed use development  
5.3.17 Upper story setbacks  
6.1.5 Parking reduction in Business district  
5.3.6 Exceptions to maximum FAR regulation  
section(s) title(s)

8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

\*TOWN OF ARLINGTON

SEE ATTACHED

(In the statement below, strike out the words that do not apply)

The applicant states that 1211 MASS AVE Realty Trust is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 1211 & 1207 Massachusetts Ave.

which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

[Signature] Trustee  
Signature of Applicant(s)

1122 Massachusetts Ave ARLINGTON, MA. 781-640-2942  
Address Phone





Town of Arlington Redevelopment Board  
Application for Special Permit in accordance with  
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested.  
Review the ARB's Rules and Regulations, which can be found at [arlingtonma.gov/arb](http://arlingtonma.gov/arb), for the full  
list of required submittals.

- ☒ Dimensional and Parking Information Form (see attached)
- ☒ Site plan of proposal
- ☐ Model, if required
- ☒ Drawing of existing conditions - photo
- ☒ Drawing of proposed structure
- ☒ Proposed landscaping. May be incorporated into site plan
- ☒ Photographs
- ☒ Impact statement
- ☒ Application and plans for sign permits
- ☐ Stormwater management plan (for stormwater management during construction for projects  
with new construction ~)

FOR OFFICE USE ONLY

- ☐ Special Permit Granted Date: \_\_\_\_\_
- ☐ Received evidence of filing with Registry of Deeds Date: \_\_\_\_\_
- ☒ Notified Building Inspector of Special Permit filing Date: 6/24/19



# TOWN OF ARLINGTON

Dimensional and Parking Information  
for Application to  
The Arlington Redevelopment Board

Docket No. \_\_\_\_\_

Property Location 1207 + 1211 MASSACHUSETTS AVE

Zoning District B4/B2

Owner: 1211 MASS AVE REALTY TRUST

Address: 1211 MASSACHUSETTS AV

Present Use/Occupancy: No. of Dwelling Units:

Uses and their gross square feet:

Mixed use / residential, automotive, social club

5,731 SF

Proposed Use/Occupancy: No. of Dwelling Units:

Uses and their gross square feet:

Mixed use / HOTEL, Restaurant

24,443 SF

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	14,030	14,030	min.
Frontage	160.12	160.12*	min. 50
Floor Area Ratio	.41	1.67	max. 1.8
Lot Coverage (%), where applicable	—	—	max. N/A
Lot Area per Dwelling Unit (square feet)	—	—	min. —
Front Yard Depth (feet)	10	4.7	min. —
Side Yard Width (feet) right side	—	—	min. —
left side	—	—	min. —
Rear Yard Depth (feet)	16	38	min. 18
Height			min. —
Stories	2	4	stories 4-5
Feet	25	44	feet 50'
Open Space (% of G.F.A.)			min. —
Landscaped (square feet)	1170	1581	(s.f.)
Usable (square feet)	1670	3384	(s.f.)
Parking Spaces (No.)	24	28	min. 50
Parking Area Setbacks (feet), where applicable	0	5'	min. 5'
Loading Spaces (No.)	0	0	min. —
Type of Construction	Type 2B + 5		
Distance to Nearest Building	0	.06	min. 0

\* MASSACHUSETTS AVENUE frontage only



Hand Delivered

2019 JUN 21 A 11:15

June 20, 2019

Redevelopment Board

Town of Arlington

730 Massachusetts Avenue

Arlington, Ma. 02476

**RE: Special Permit Application – 1207 & 1211 Massachusetts Avenue**

Dear Members:

Enclosed please find our application for Special Permit in accordance with Environmental Design Review Procedures (Section 3.4 of the Arlington Zoning Bylaw). Included in this application are the submittals outlined on the check list. We have spent many hours developing these plans with input from the Planning department staff, which we are very appreciative of. These discussions have been very helpful and we look forward to discussing this proposal with you.

The proposed development would demolish the current improvements on both parcels and construct a four story mixed use development. When complete, the property will consist of a 50 room boutique hotel and upscale restaurant. This proposal will provide much needed improvements to the area and a significant economic stimulus to the Heights. Below we address the narrative relating to the Impact Statement and Special Permit Criteria.

**Impact Statement:**

***1. Preservation of Landscaping.***

The current site has a small amount of landscaping in front of the former DAV Post. The balance of the site is covered by the buildings, pavement, and walkways on the site. We intend to provide a larger area with a substantial addition of trees, plants, and landscaping along the rear of the site, providing a nice lush buffer to the residential district to the rear. In addition we have an extensive planting and open space design for the front of the site along Massachusetts Avenue. Please see the attached site plan and planting schedule.

***2. Relation of Buildings to Environment.***



As mentioned above, this proposal involves a four story elevator building consisting of a hotel and restaurant. The hotel lobby and restaurant will be located on the first floor while all guest rooms will be on the upper levels. The fourth floor will also include private deck space for each unit on that level, as well as a grassed area for other hotel guests. The proposal will move the structure closer to Massachusetts Avenue and much further away for the residential neighborhood to the rear. This project is in harmony with the retail and other uses in the area.

### ***3. Open Space.***

The site is currently improved with two structures having a combined footprint of 4,614 sq. ft. The proposed structure will have a footprint of 5,516 sq. ft., an increase of 902 sq. ft. Although there is a slight increase, the usable open space, substantial pervious area reduction and rear yard setbacks are all positive results of this project.

### ***4. Circulation.***

The improvements proposed will help the circulation for vehicular, bicycle, and pedestrians. We will be eliminating two large driveway openings (totaling 55') and realigning the sidewalk and curbing. In addition we are providing indoor and outdoor areas for bicycles. All parking will be provided via a single curb cut in the rear. Bus service to multiple locations can be boarded / dropped off within feet of the property and is convenient to highway access and the bike path.

### ***5. Surface Water Drainage.***

The properties are currently covered (over 90%) by impervious surfaces. The proposal will result in a reduction in impervious surface, therefore Title 5, article 15, section 4 does not apply. However, we have met with the Assistant Town Engineer and have agreed to construct a storm water management system onsite. The system will be located under the driveway and contain all roof and surface runoff. All surface water will be contained on site, in compliance to the bylaws and with Town approval.

### ***6. Utility Service.***

As part of the redevelopment, all new utility services will be installed to the property. These systems will all be underground and conform to Town requirements.

### ***7. Advertising Features.***

As shown on the renderings, we are proposing signage for the hotel and restaurant. It will appear on the front and West side. In Addition there will be some small signs (most likely two or three) in the rear to guide vehicular, bicycle and pedestrian traffic. On the front the signage will be a contemporary font (12") and mounted to the front of the canopy to the hotel and restaurant. The signage on Clark Street will be on the building façade, the fonts ( Hotel sign 12", restaurant 8") will match the canopy signage. Both the front canopy and the Clark Street signage will be back lit.



## **8. *Special Features.***

We have proposed substantial landscaping on site, specifically the rear boundary. This is intended to provide adequate screening and create a more harmonious environment than currently exist.

## **9. *Safety.***

We believe the proposed improvements to the sidewalks and the elimination of two driveway openings will create safer off site conditions for residents. In addition, the building has two stairwells servicing all floors as well as an elevator. It will meet all ADA and fire code requirements. Illumination of the rear parking area will be achieved by 12'-0" high pole mounted LED lights with cut off lenses to ensure no other properties are affected. Additional LED down lights will be mounted below the projecting balcony to illuminate the area at the building covered parking entrance.

## **10. *Heritage.***

This project does not involve any historical structures, nor will it disrupt any historical uses. In fact we believe that this project will increase interest in the Towns many Historic sites. Located a short distance from the property is the "FOOT OF THE HILLS" site and "OLD SCHWAMB MILL." It is our goal to leverage the Lexington tour groups, and introduce them to the Town where the first shot of the Revolution was fired!

## **11. *Microclimate.***

We believe the increase in permeable surface will impact light, air, and water recharge in a positive way. In addition this will also create a nice natural buffer. The new structure will be 35 to 54 feet away from the rear boundary, which is a significant increase from the current conditions which ranges from 16 to 20 feet.

The basement level has a sizable mechanical equipment room serving the main street level public spaces (the Hotel Lobby and the Restaurant). All of the upper floor hotel rooms are served by individual vertical air handlers (V-TAC) units, as depicted by the louvers on the building elevations and renderings. All of the equipment is designed and located to control any emissions. The entire building will be exhausted through the high roof with low profile exhaust fans.

## **12. *Sustainable Building and Site Design.***

This building will meet or exceed the Towns New Stretch Code. Below we have provided some details of the exterior finishes being proposed.



**Main Level:** Kawneer Curtain wall system, making the public spaces as transparent (inviting) as possible;

2<sup>ND</sup> & 3<sup>RD</sup> Floor: The cantilevered (projected) bays consist of an insulated stucco system, the recess portions consist of either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood.

4<sup>TH</sup> Floor: Is clad with the insulated stucco system.

Both the high and low roofs are copped with a darker metal roof edge system.

**Clark Street Façade:**

Main Level: (see above for the public spaces); The stair well is clad with a metal panel system similar to Corten or equal.

2<sup>ND</sup> & 3<sup>RD</sup> Floor: Consists of either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood. The stair well is clad with a metal panel system similar to Corten or equal.

4<sup>TH</sup> Floor: Is clad with the insulated stucco system. The stair well is clad with a metal panel system similar to Corten or equal.

Both the high and low roofs are copped with a darker metal roof edge system.

All windows occurring in the stair well are clad with a metal louver system.

**Rear Façade:**

Lower Level: The main field is clad with either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood. Both ends of the building are clad with a metal panel system similar to Corten or equal.

Main Level: The main field is clad with either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood. Both ends of the building are clad with a metal panel system similar to Corten or equal.

2<sup>ND</sup> & 3<sup>RD</sup> Floor: The cantilevered (projected) bays consist of an insulated stucco system, the recess portions consist of either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood.

4<sup>TH</sup> Floor: Is clad with the insulated stucco system. The stair well is clad with a metal panel system similar to Corten or equal. Both ends of the building are clad with a metal panel system similar to Corten or equal.

Both the high and low roofs are copped with a darker metal roof edge system.

**Right Side Façade:**

A portion of the lower level is a common wall. The remainder of the exterior cover will be similar to the design of the rear façade.

**Special Permit Criteria**

- This mixed use project is proposed in the B4/B2 zoning districts. Mixed use is an allowable use, provided a Special Permit is issued by the Board. This proposal was submitted as a response to an RFP issued by the Town of Arlington for a mixed use development at 1207 Massachusetts Avenue. We seek approval of a special permit from the "Use Regulations For Business Districts" section 5.5.3.
- The proposal calls for a four story building containing a hotel and restaurant. The pertinent section of the bylaw, Section 5.3.17, provides for any building over three stories in height to have a "step in" of 7.5' at the third floor level or 30'.



The proposed design “steps in” the first floor 8” from the beginning of the second and third floors and again at the top of the third floor. The result of this design has the main façade comprised of only two floors (where as the bylaw allows for three), with a “step in” at 34’ rather than 30’.

We believe that this design not only meets the intent of the bylaw, but provides even greater reduction in massing. We therefore request the Board provide relief.

- The proposal increases the amount of parking on the site partially by providing 20 spaces under the building in addition to 8 outside spaces. The bylaw calls for 50 spaces and therefore we are seeking relief in accordance with section 6.1.5 of the bylaw (Please see attached parking summary grid).

The proposal provides substantial indoor and outdoor parking for bicycles on a long term and short term basis. Both areas are easily accessible and not only provide for bicycle storage, but there will be a bench and some tools available. In addition we are providing maps of the local bike network and other information for bicyclists (please see attached bicycle storage summary).

As required in the bylaw we have also included a Traffic Reduction Plan which provides many more details on our plan to comply with the bylaw. Below I have outlined a few additional commitments we are proposing;

Charge for parking off site;

Provide preferential parking for carpool vehicles;

Provide transit pass subsidies;

Provide covered bicycle parking and storage.

- The proposal is located in the zoning districts of B4 & B2, which has an FAR of 1.2. According to section 5.3.6 “Increase in Maximum Floor Area Ratio” the Board may provide relief for mixed use building area in these districts.

As noted, we are substantially increasing the permeable and open space on the site. This will provide for a much larger buffer to the residential district to the rear. The design of the building and landscaping plan will also provide landscaping and open space along the entire Massachusetts Avenue frontage. A portion of this area also will provide a nice open area for local community performances and art shows or presentations regarding the local historical locations nearby. We will also be dedicating an area in the lobby of the hotel to a local Veteran and community person.

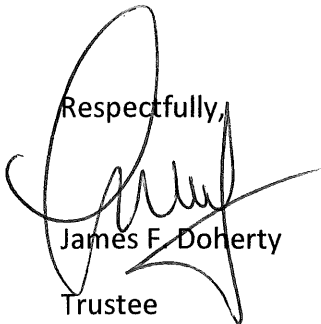
Our request for an increase of 2,398 sf of building area, equates to an 11% increase. We believe we meet the criteria for relief.



1. The proposed development will transform a blighted area and provide a missing dining option in the Heights as well as a Hotel for visitors and relatives of residents. Town Meeting has changed the zoning to encourage mixed use development for the convenience and welfare of the public.
2. The property currently has three very large curb cuts on Massachusetts Avenue and Clark Street. As part of this proposal we will be removing the two on Massachusetts Avenue and shortening the Clark Street opening. We believe this and other adjustments to the sidewalk in front will improve both pedestrian safety and traffic congestion.
3. This project will not overload any public water, drainage or sewer system. We are proposing to reduce the impervious surface and install a storm water management system on site. There currently are none.
4. The current improvements consist of automotive repair and sales, as well as a former social club. The proposed development will complement the new leader bank and hopefully stimulate of retail activity in the property at 1215 Massachusetts Avenue. This proposal will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals or welfare. Our goal is to work with the Redevelopment Board and staff to ensure that any special regulations for this use, as provided in the Bylaw, are fulfilled.
5. The only other hotel in Arlington is on the Cambridge line. Not only will this proposed use not cause an excess of this use, we believe this will provide economic stimulus to the retail district in the Heights, draw visitors from Lexington to the historic sites of Arlington and provide an upscale dining and gathering area for the neighborhood.

We believe this application is in the spirit of what Town Meeting envisioned when it adopted the mixed use section to the Zoning Bylaw. The RFP waived all permitting fees associated with this development, therefore no application fee was included. We look forward to meeting with the Redevelopment Board. As a result of this process, we request the Board approve our Petition for Environmental Design Review and Special Permits requested.

Respectfully,



James F. Doherty  
Trustee



**1211 Massachusetts Avenue**  
**Traffic Demand Management Plan (TDM)**

This property is located in one of the most ideal locations to support a parking reduction request. The site is located within 50 yards of an East / West bound MBTA surface bus stop. In addition there is a central terminal and other bus lines within walking distance.

The site is in close proximity to the Minuteman Bike Path (approximately 600 yards) which can be accessed by a street directly adjacent to the property. In addition there are marked bike lanes on Massachusetts Avenue. Both of these options provide a practical and safe route for guests. To encourage this use we will be providing an outdoor and indoor location for bicycle storage.

To help promote ridesharing we will be working with local taxi operators, livery services, and shuttles which connect areas like Alewife to employment hubs on Route 128. We also are in discussions with ZIPCAR for a spot at the site.

Finally we are discussing other nearby locations to obtain Valet parking, if necessary. It is our belief that this plan addresses the Bylaw and as mentioned previously, is a deserving location to warrant the requested relief.



<b><i>Parking Summary</i></b>			
<b><i>1211 Massachusetts Ave</i></b>			
<b><u>Spaces Required:</u></b>			
<b>Use</b>	<b>Quantity</b>	<b># of spaces</b>	<b>Total Required</b>
Hotel	50	50	50
Resturant	2,568 sf	0	0
Total			50
Proposed			28
Reduction			22



<b><i>Bicycle Storage Summary</i></b>			
<b><i>1211 Massachusetts Ave</i></b>			
<b><u>Spaces Required:</u></b>			
<b><u>Use</u></b>	<b><u>Short Term</u></b>	<b><u>Long Term</u></b>	<b><u>Total Required</u></b>
Hotel	3	1	4
Resturant	2	1	3
<b>Total</b>	<b>5</b>	<b>2</b>	<b>7</b>
<b>Proposed</b>	<b>7</b>	<b>7</b>	<b>14</b>



<b><i>Planting Schedule</i></b>				
<b><i>1211 Massachusetts Ave</i></b>				
<b><u>Quantity</u></b>	<b><u>Botanical Name</u></b>	<b><u>Common Name</u></b>	<b><u>Notes</u></b>	<b><u>Location</u></b>
75	Buxus Green Velvet	Green Velvet Boxwood	15-18"	Front
75	Carex Blue Zinger	Blue Zinger Grass	n/a	Front
4	Syringa Reticulata Ivory Silk	Tree Liliac	2"	Rear
10	Thujastandishi x Pucata	Green Grant Arborvitae	6-8'	Rear
4	Ilex x Meserveae	Blue Princess	8-10"	Rear
4	Hydrangea Quercifolia	Oakleaf Hydrangea	4'	side



# SPECIAL PERMIT - SITE PLAN REVIEW

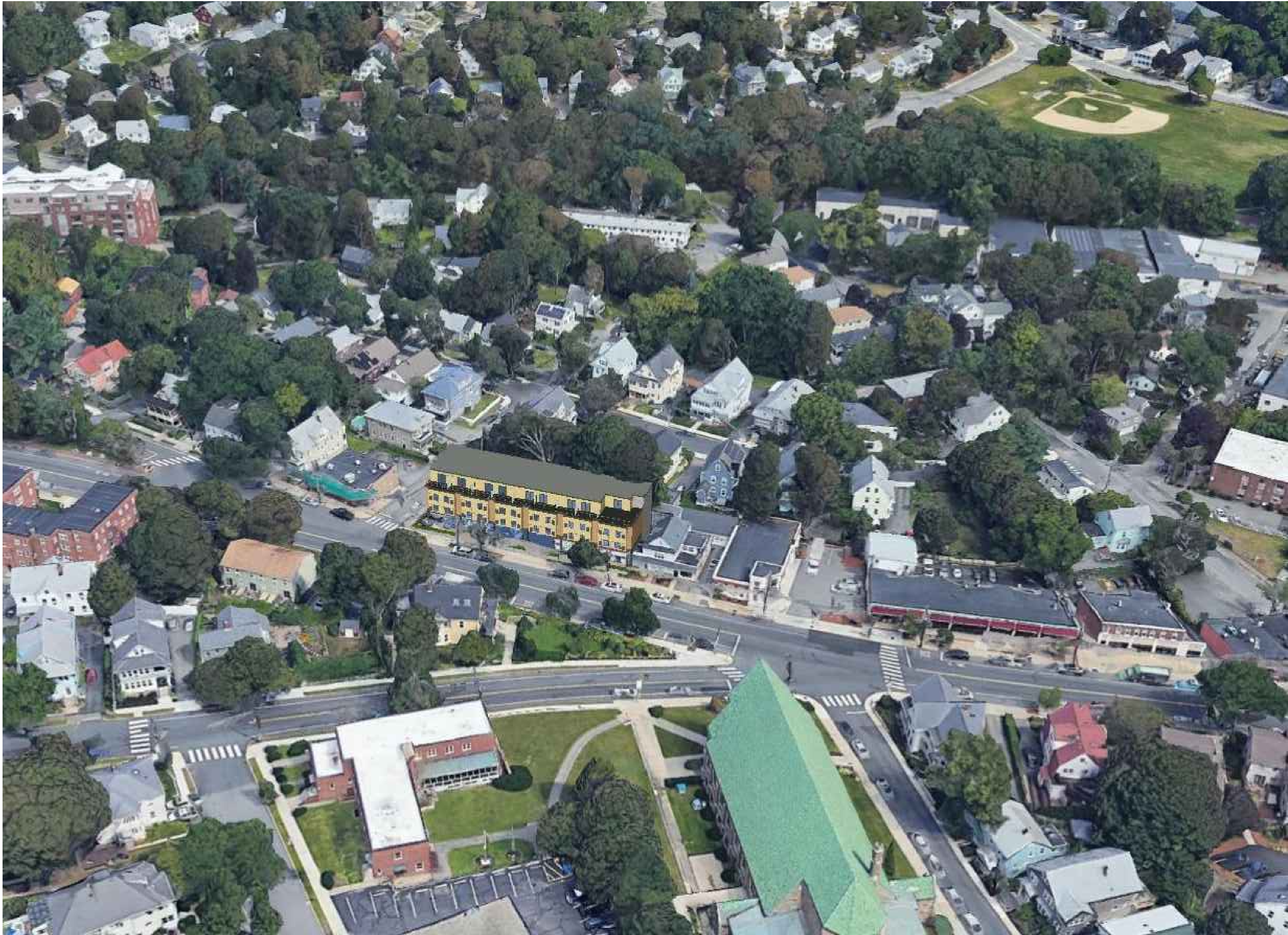
1211 Massachusetts Avenue  
Arlington, MA 02476

June 20, 2019



LINCOLN ARCHITECTS LLC  
1 Mount Vernon Street, Suite 203  
Winchester, MA 01890  
781.721.7721

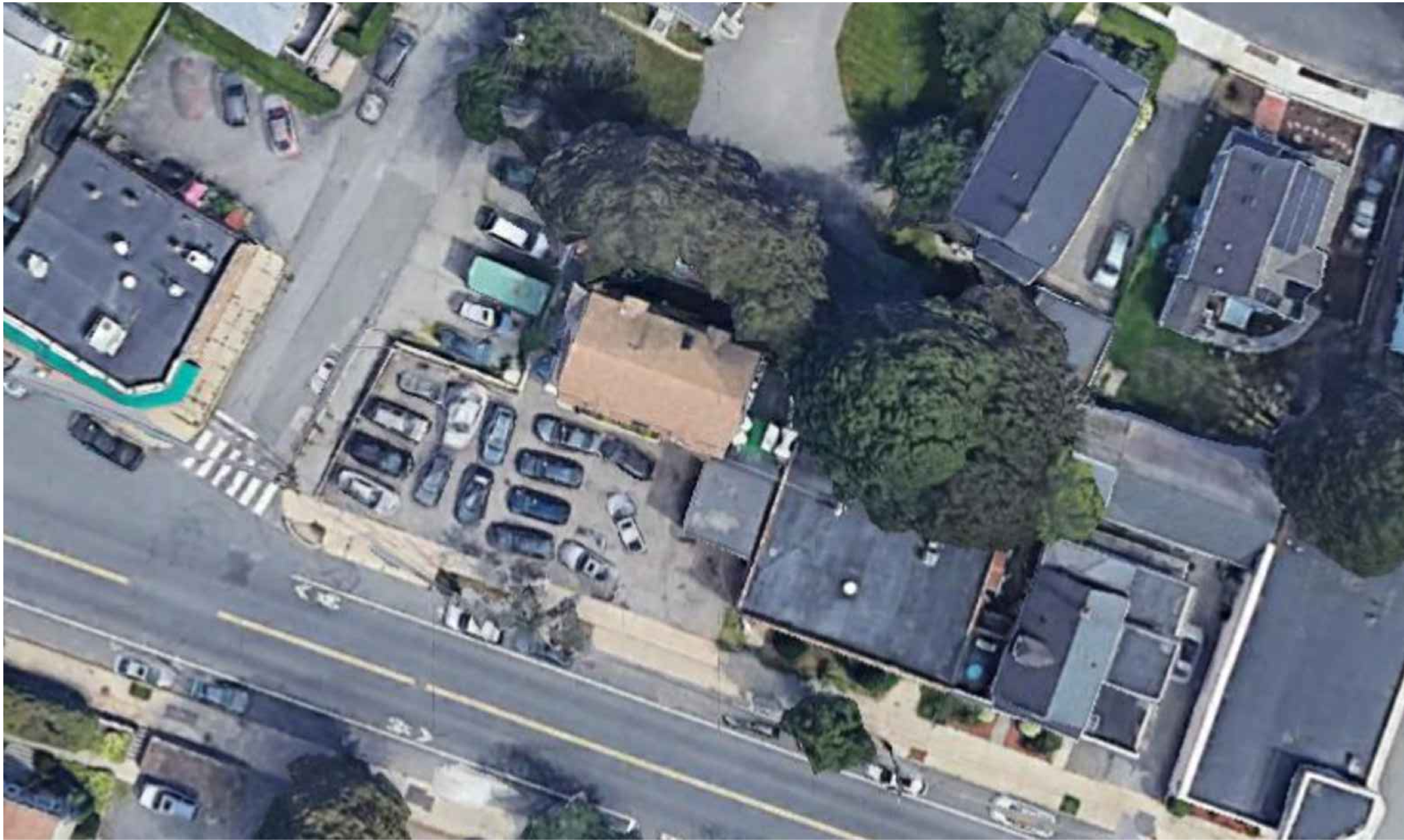
## LOCUS PLAN



## DRAWING LIST

- ARCHITECTURAL**
- COVER SHEET/LOCUS PLAN/ZONING SUMMARY
  - EXISTING CONDITION DIAGRAM
  - PROPOSED PLOT PLAN
  - SITE PLAN/LANDSCAPING PLAN
  - LOWER LEVEL FLOOR PLAN
  - MAIN LEVEL FLOOR PLAN
  - SECOND & THIRD FLOOR PLAN
  - FOURTH FLOOR PLAN
  - BUILDING ELEVATIONS
  - RENDERINGS/VIEW FROM MASSACHUSETTS AVENUE
  - RENDERINGS/VIEW FROM CLARK STREET
  - RENDERINGS/BIRDS EYE VIEW FROM MASSACHUSETTS AVENUE
  - SHADOW STUDY/SUMMER SOLSTICE
  - SHADOW STUDY/WINTER SOLSTICE
  - SHADOW STUDY/AUTUMN EQUINOX
  - SHADOW STUDY/SPRING EQUINOX





Existing Conditions Diagram

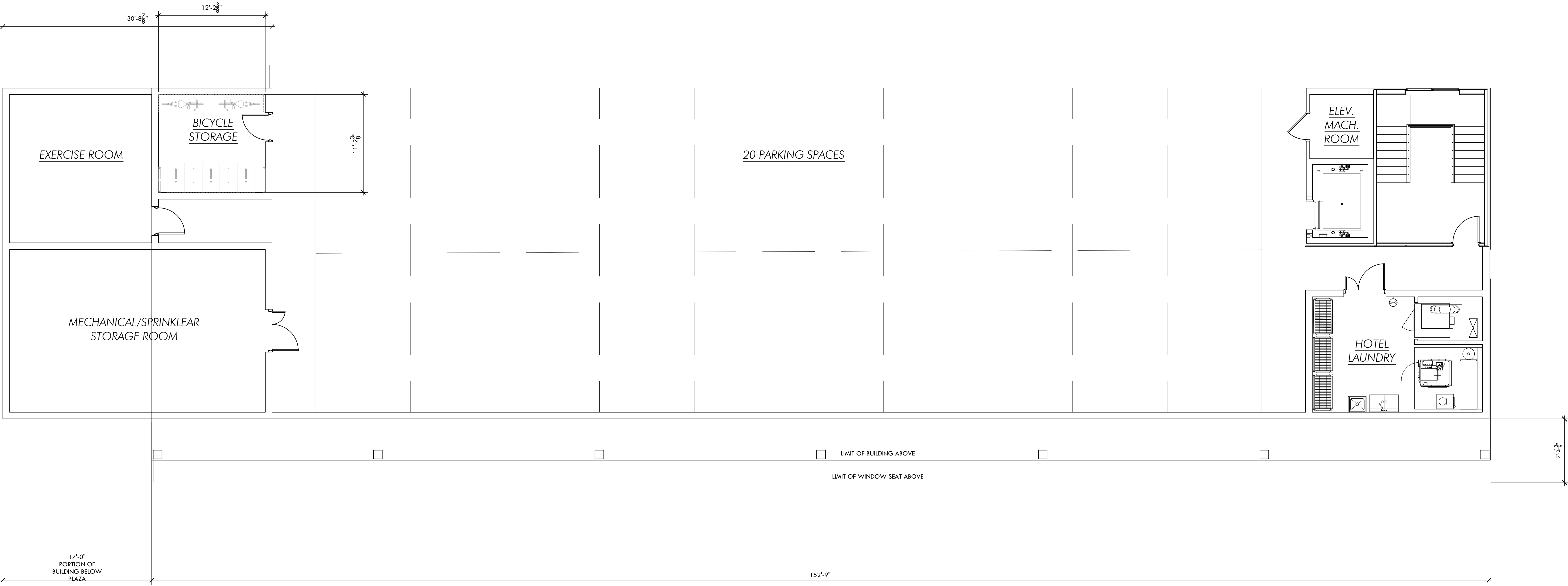




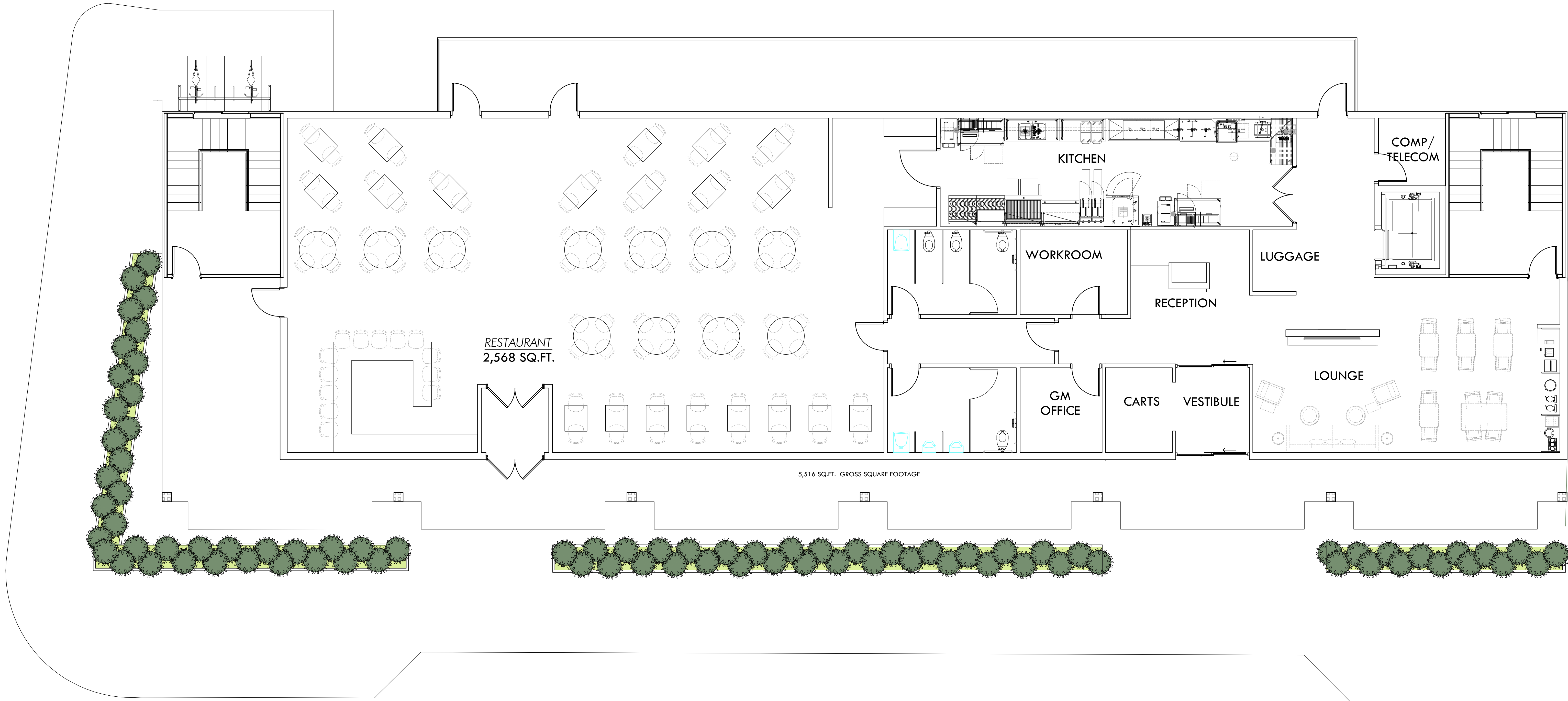




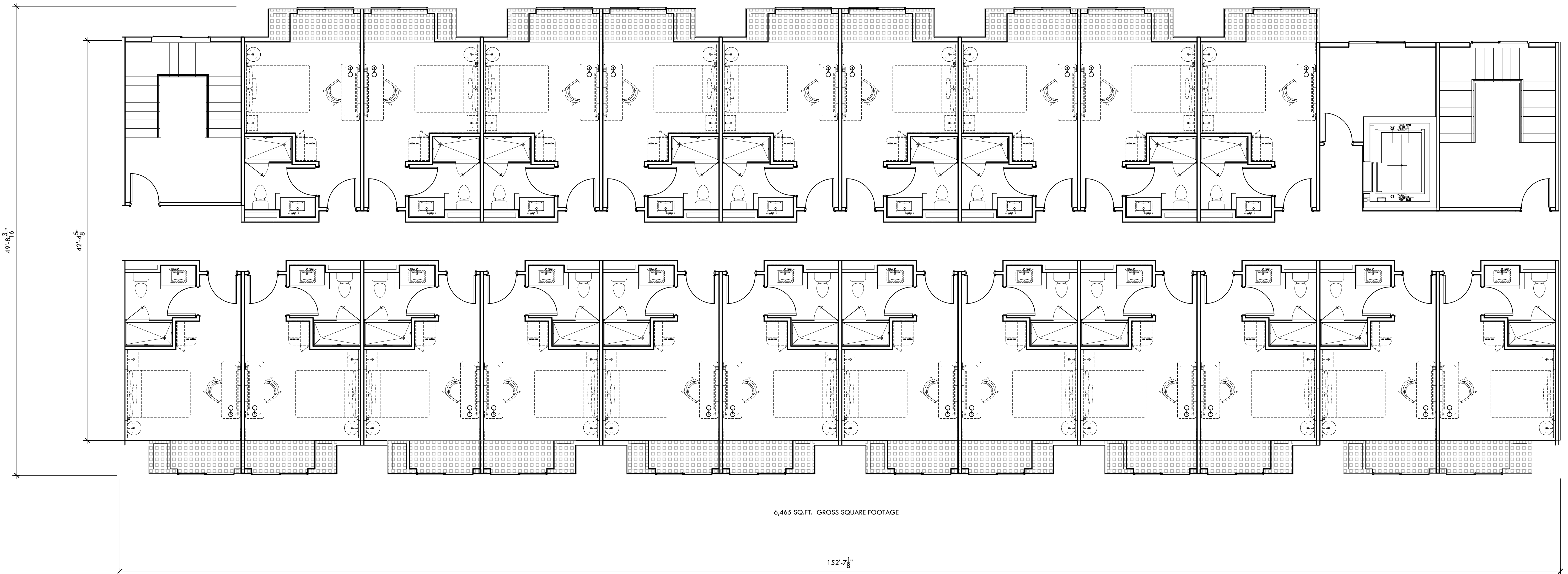






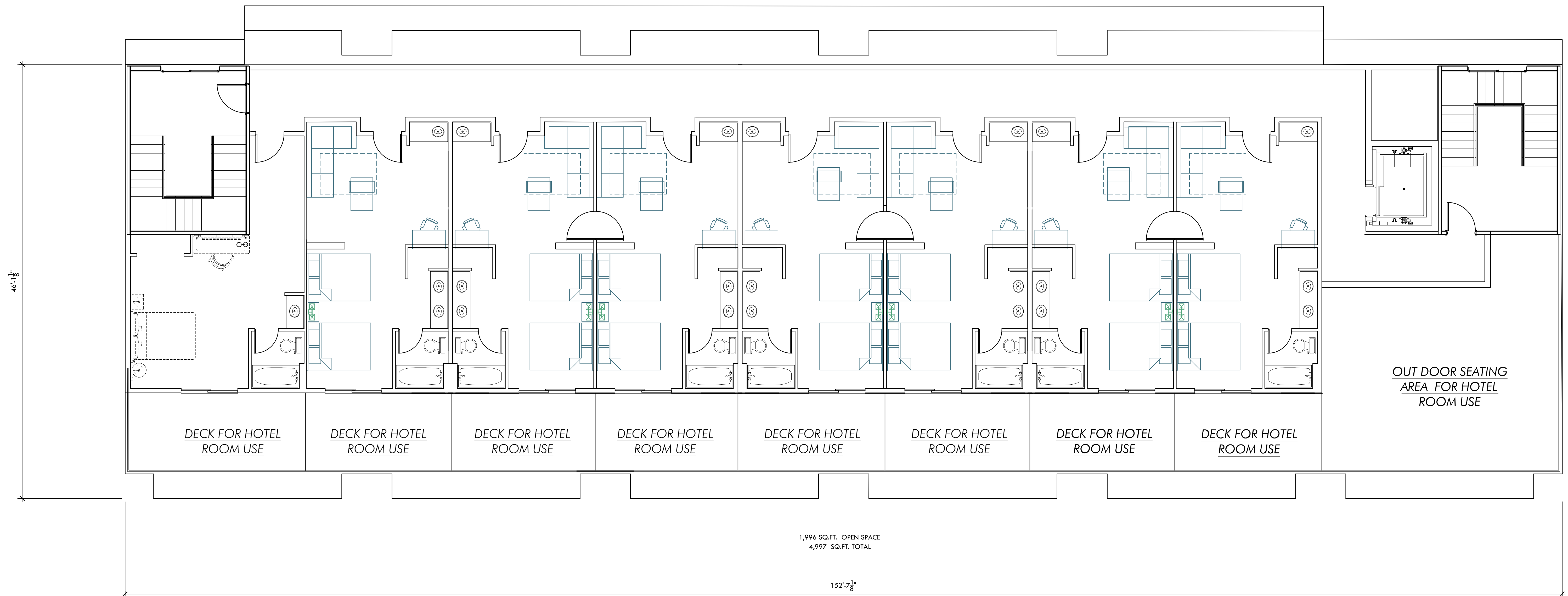






**Second & Third Floor Plan**









Front Elevation (Massachusetts Avenue)



Side Elevation (Clark Street)



Rear Elevation





View From Massachusetts Avenue





View From Clark Street

## Renderings





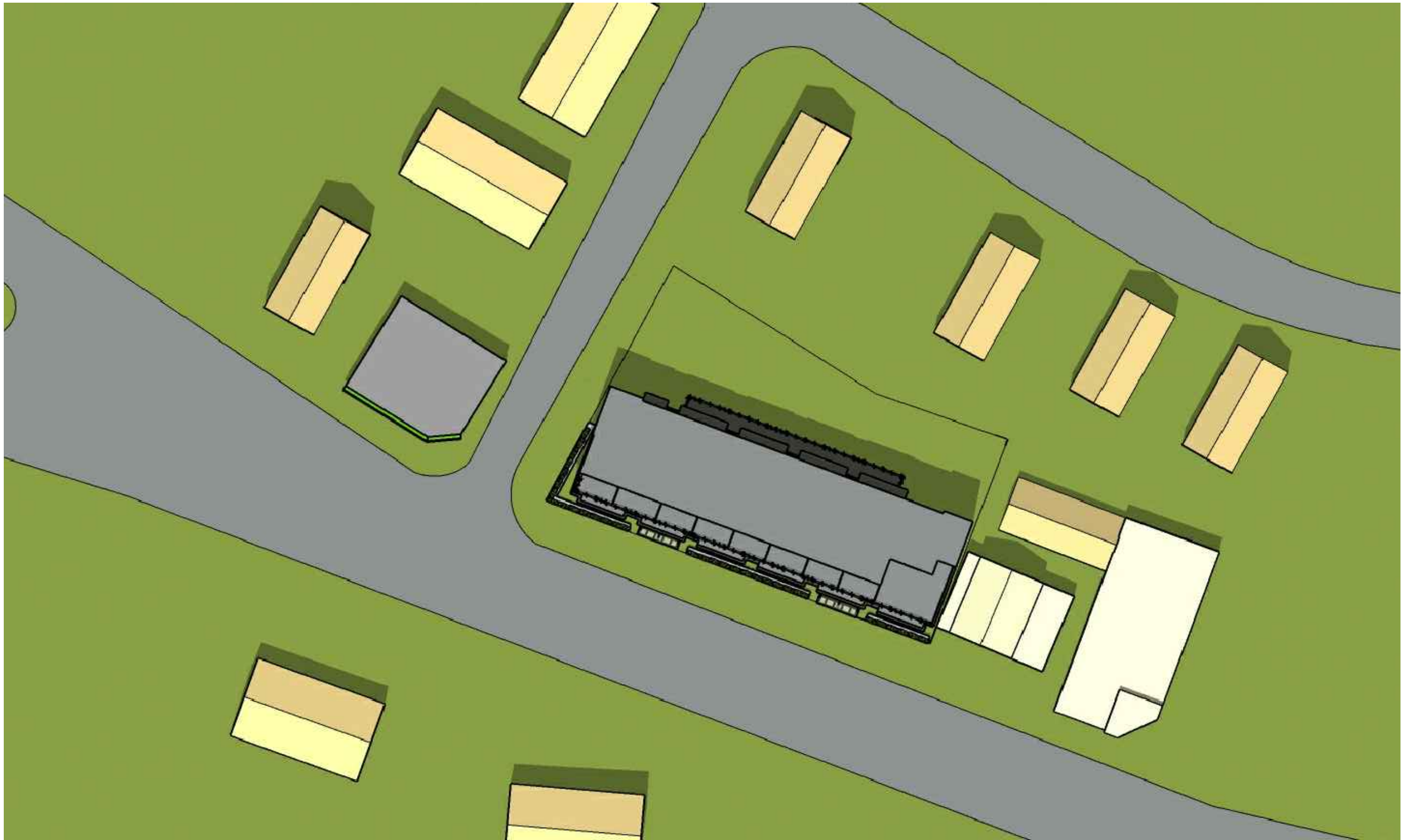
Birds Eye View From Massachusetts Avenue



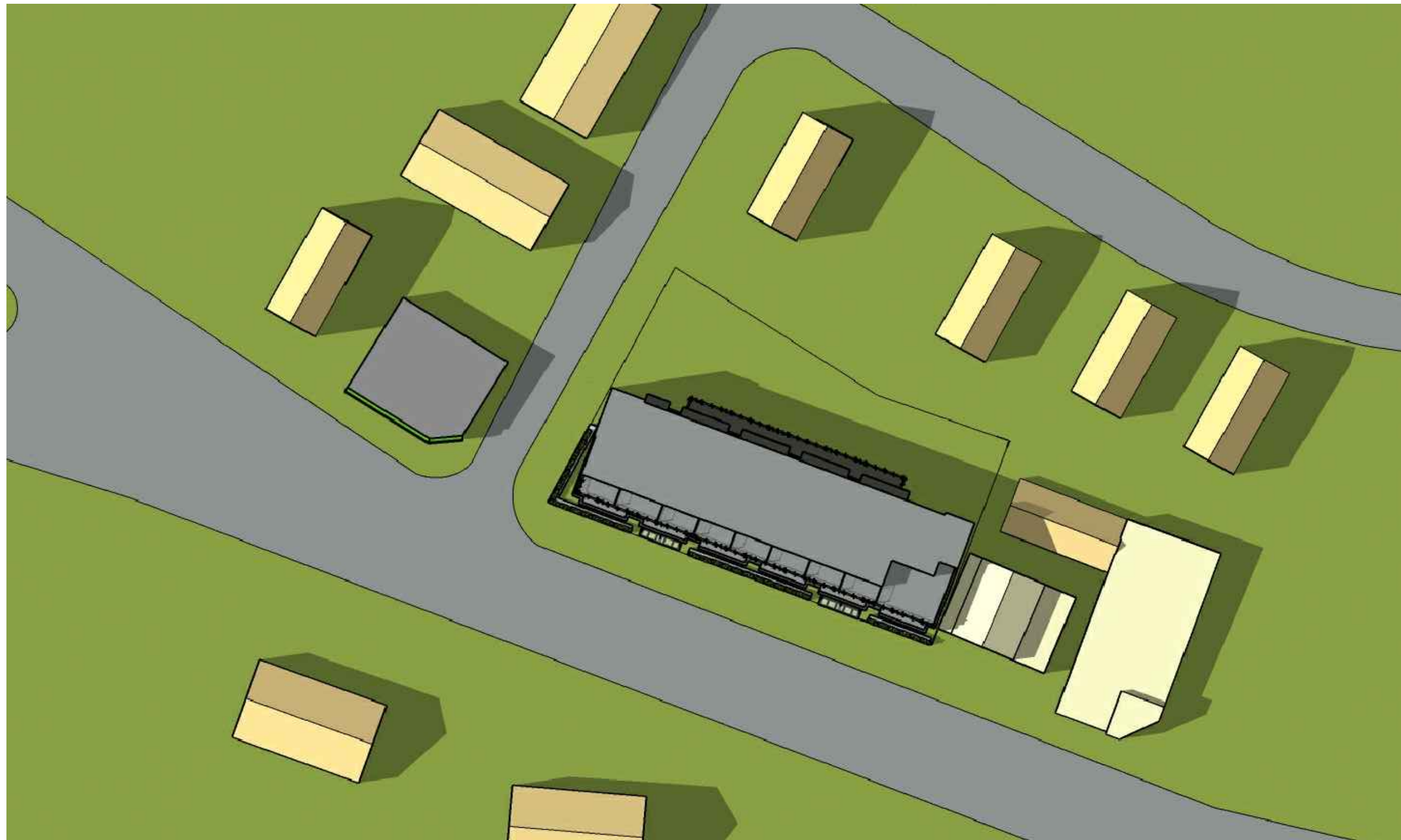
Summer Solstice



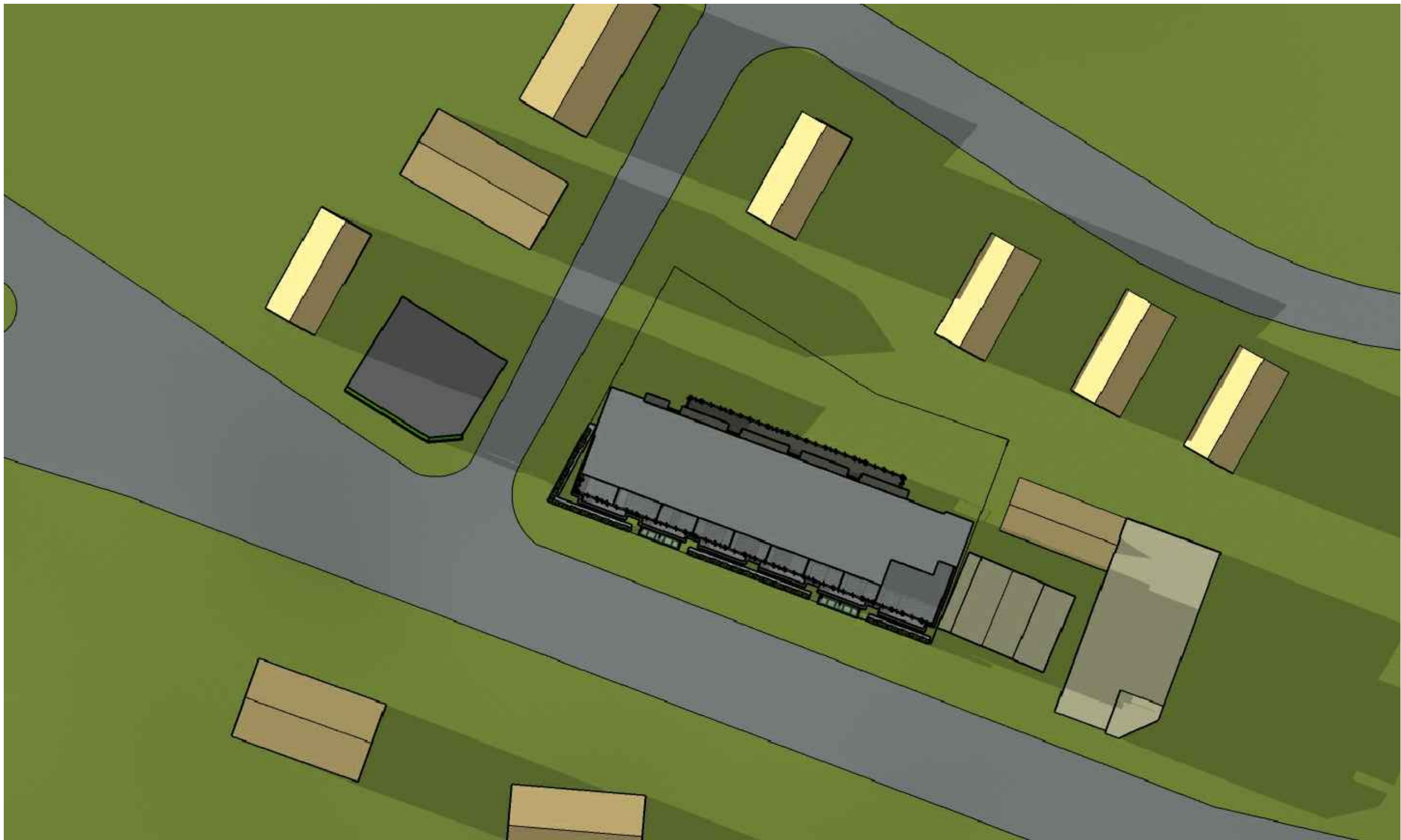
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12:00 PM



3:00 PM



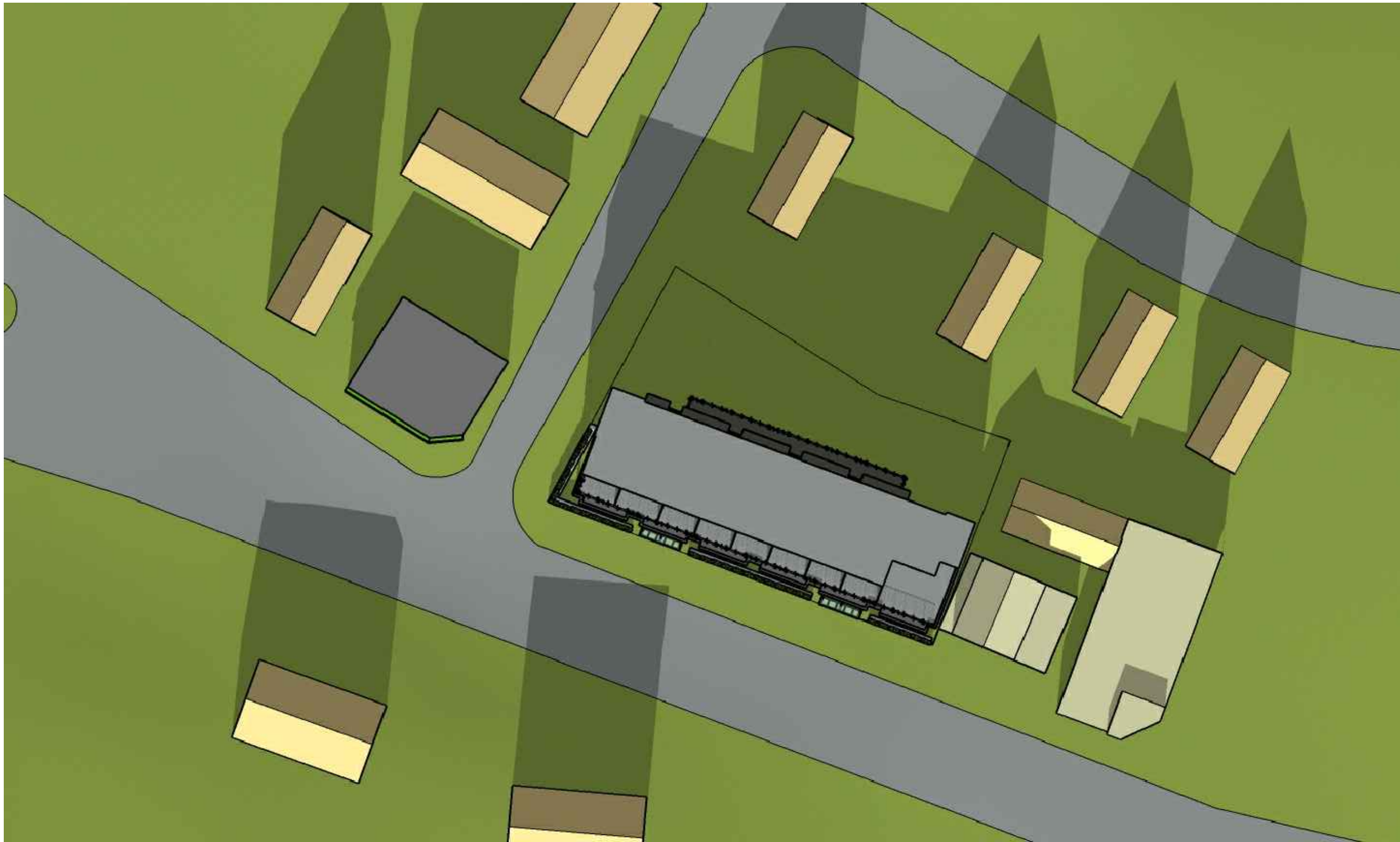
6:00 PM



Winter Solstice



9:00 AM



12:00 PM



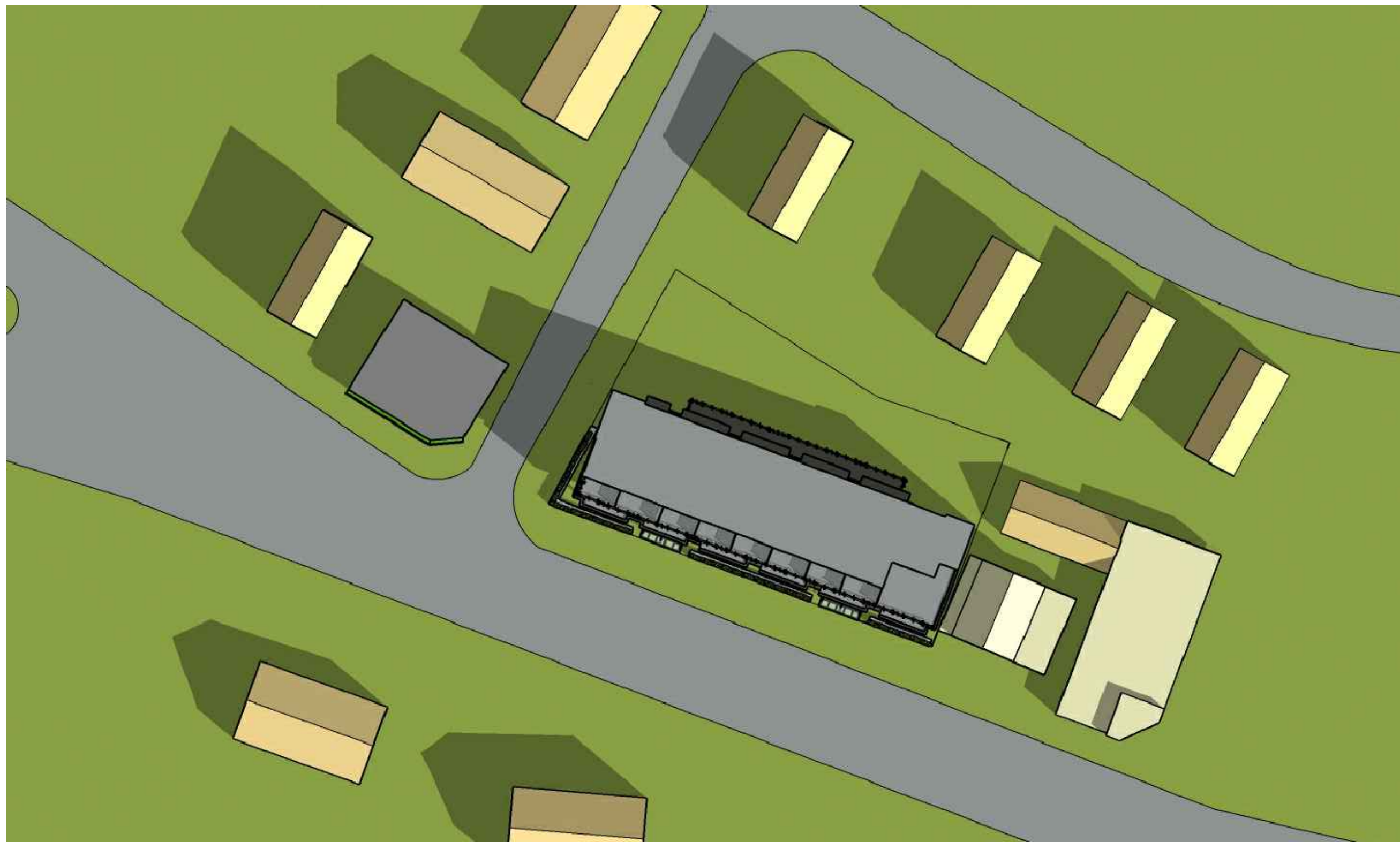
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6:00 PM



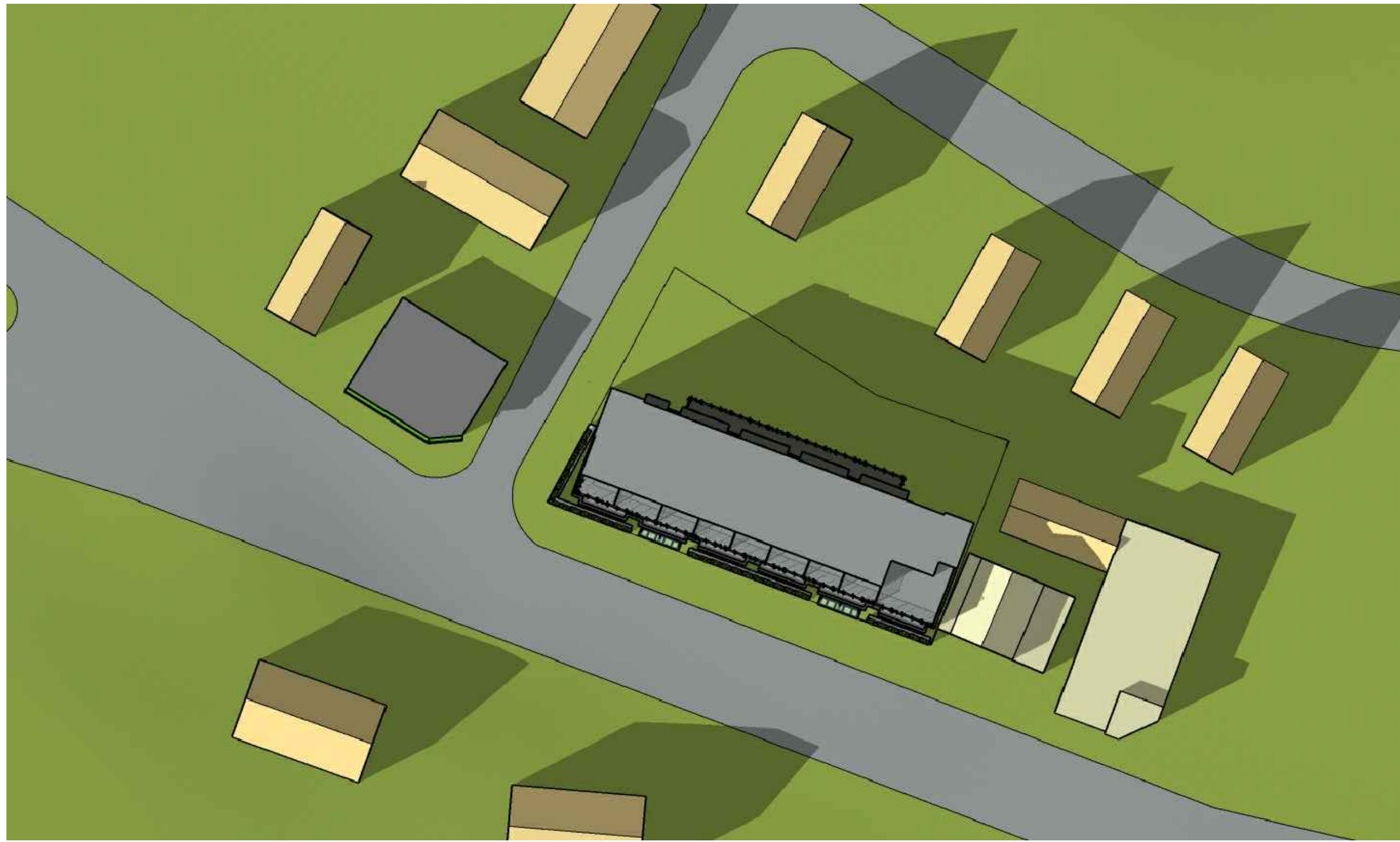
Autumn Equinox



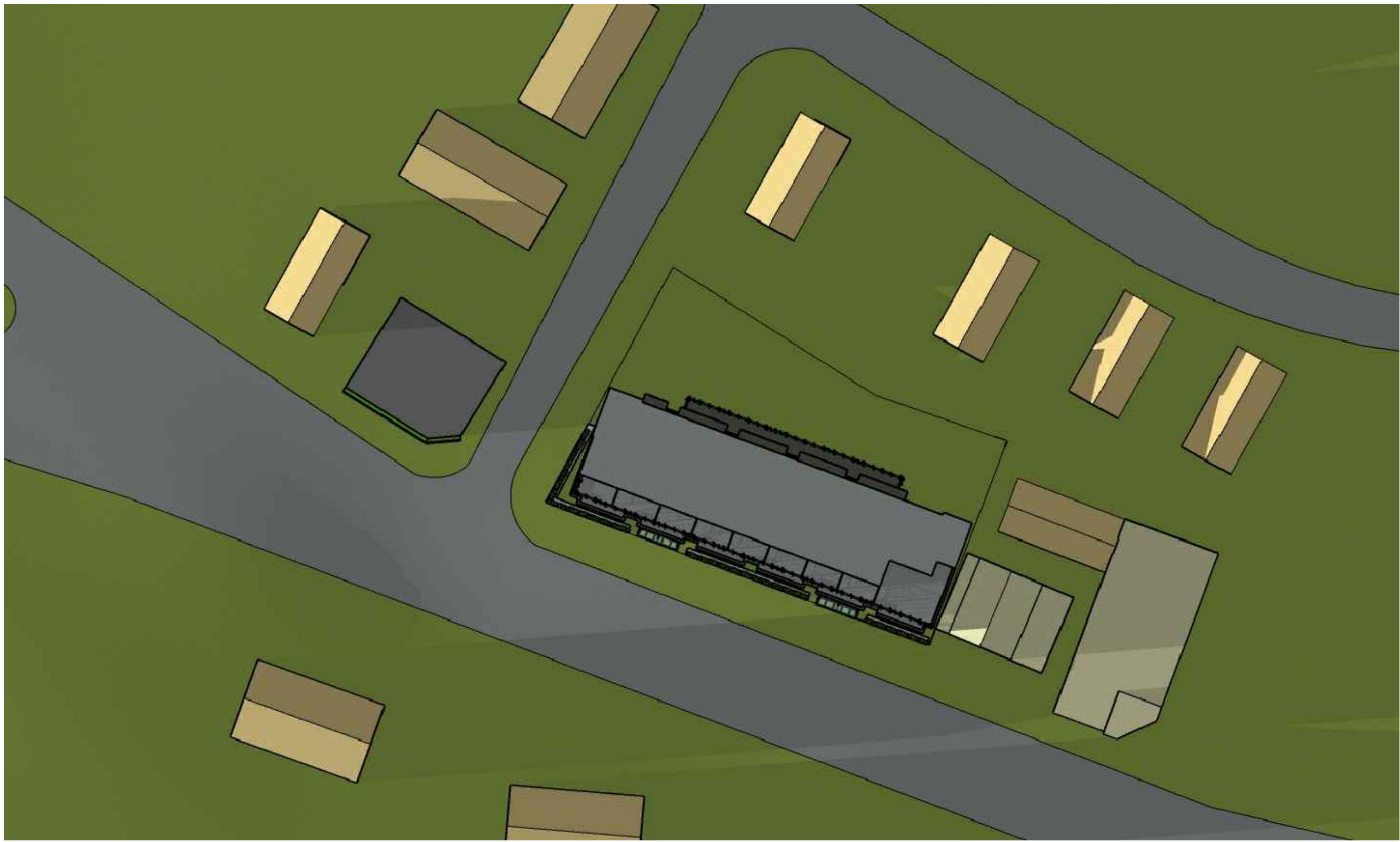
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12:00 PM



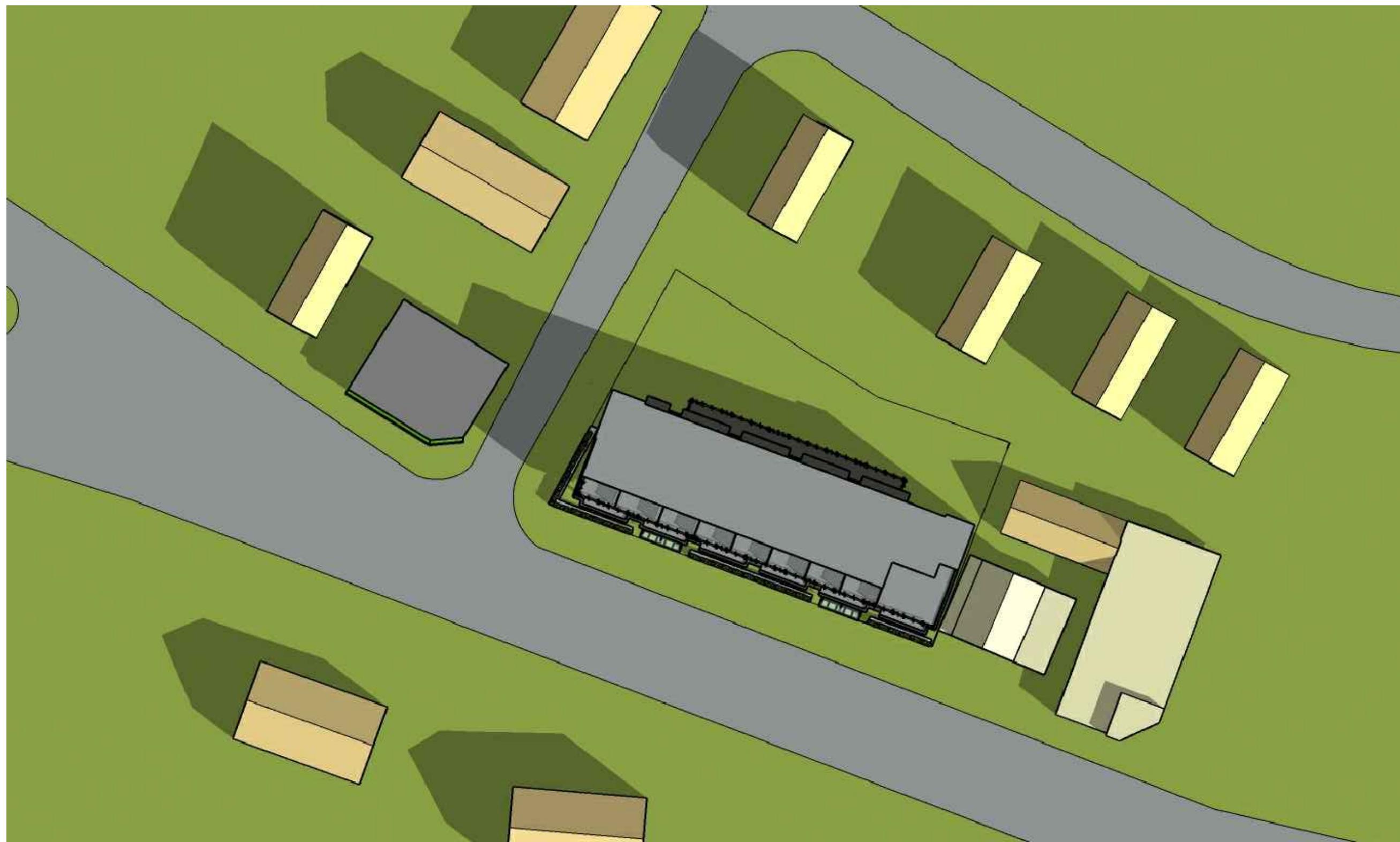
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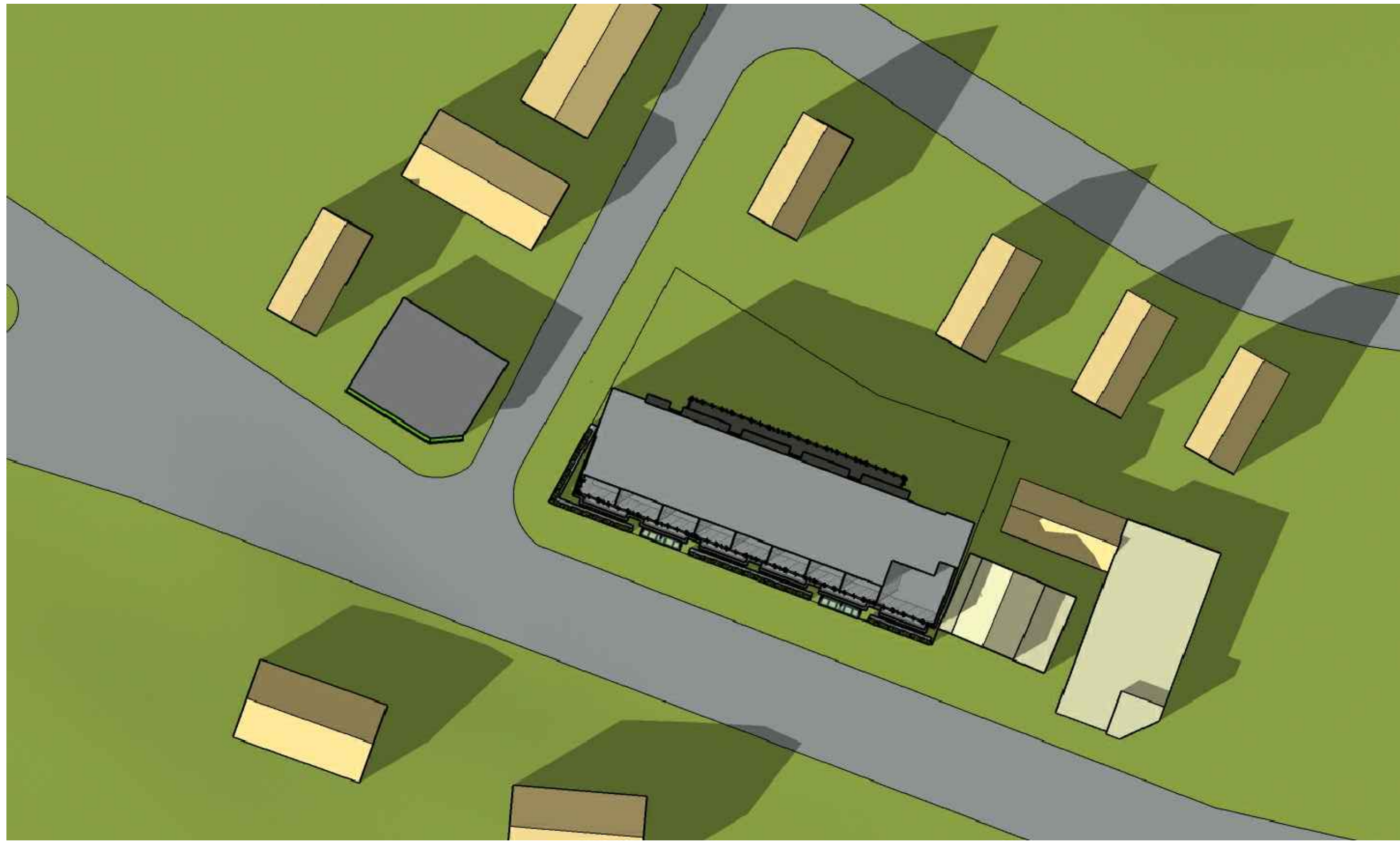
Spring Equinox



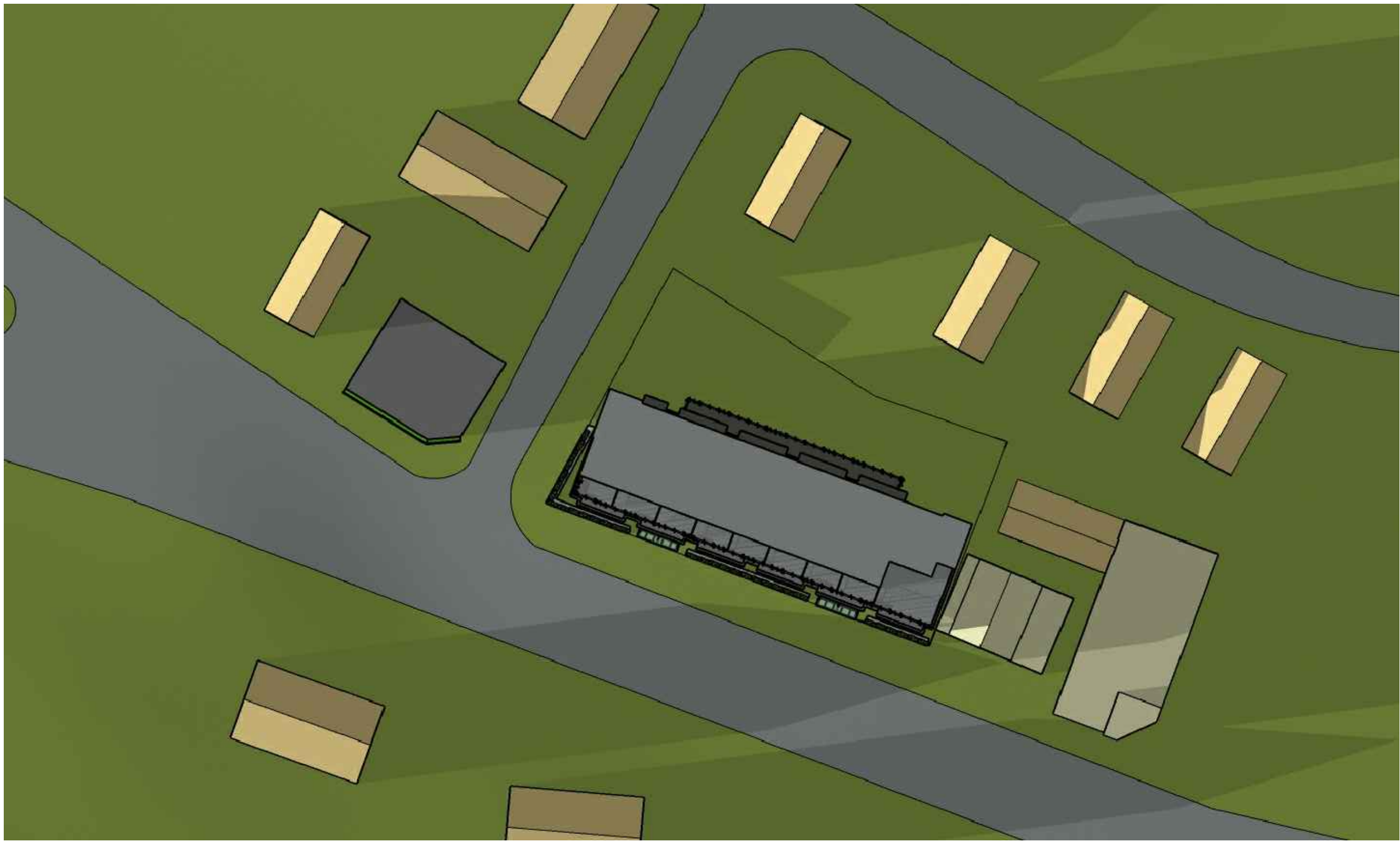
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12:00 PM



3:00 PM



6:00 PM



PLANNING & COMMUNITY  
DEVELOPMENT

**KRATTENMAKER O'CONNOR & INGBER P.C.**

ATTORNEYS AT LAW

2020 JAN 21 P 2:08

ONE MCKINLEY SQUARE  
BOSTON, MASSACHUSETTS 02109  
TELEPHONE (617) 523-1010  
FAX (617) 523-1009

CHARLES G. KRATTENMAKER, JR.  
MARY WINSTANLEY O'CONNOR  
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

January 21, 2020

**VIA EMAIL**

Jennifer Raitt, Director  
Department of Planning and Community  
Development  
Town of Arlington  
730 Massachusetts Avenue  
Arlington, MA 02476

Re: Docket No. 3602 / 1207-1211 Massachusetts Avenue

Dear Jenny:

Thank you for your memorandum of January 7, 2020. I will respond to the items raised in the order in which you have listed them.

1. A traffic study will be submitted by Mr. Doherty.
2. See the revised plans.
3. The revised plans show screening where the proposed mechanical's will be located. This also reflects a reduction in the proposed venting for the building at this time. It should be noted that the final locations will be determined on the IFC (Issued for Construction) plans and will not be visible to the surrounding neighborhood.
4. See the updated information attached as Exhibit "A".
5. See the updated information attached as Exhibit "B".
6. The petitioner will not be providing this information as it is proprietary and is not relevant to the relief requested.
7. This information was provided in the materials delivered on January 2, 2020. There are two properties with solar panels behind the subject property – 18 Pierce Street and 24 Clark Street. Neither is impacted.
8. See the updated information attached.
9. Resolved – no response required.



**KRATTENMAKER O'CONNOR & INGBER P.C.**

Jennifer Raitt, Director  
January 21, 2020  
Page 2

Comments provided by ARB:

1. A draft traffic study will be submitted by Mr. Doherty.
2. Updated information was included in the package delivered on December 2, 2019. Additional information will be provided with the submission on January 20, 2020.
3. Resolved – no response is required.
4. Resolved as indicated above. Additional detailed information will be included in the January 20, 2020 submission.
5. Detailed information will be included in the January 20, 2020 submission.
6. Resolved – no response required.
7. Resolved – no response required.
8. Resolved – no response required.
9. This has been revised and was included in the December 2, 2019 submission.
10. I would suggest that no parking is required for the restaurant as it is a prior nonconforming use. The DAV had a kitchen and restaurant and had no parking. I would suggest that this is substantially similar to the restaurant use being proposed for the Balich 5 & 10, where no parking is available on site.
11. Resolved – no response required.
12. Resolved – no response required.
13. Resolved – no response required.
14. Updated information will be provided with the January 20, 2020 submission.

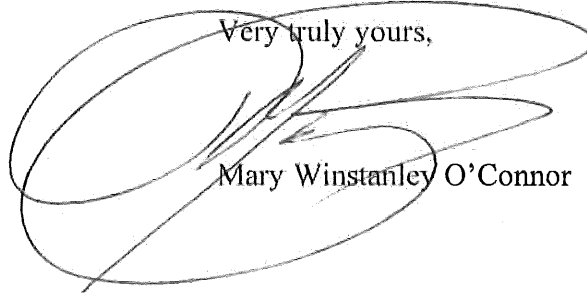


**KRATTENMAKER O'CONNOR & INGBER P.C.**

Jennifer Raitt, Director  
January 21, 2020  
Page 3

Please do not hesitate to contact me to discuss this matter. In advance, I thank you.

Very truly yours,

A large, stylized handwritten signature in dark ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Mary Winstanley O'Connor

MWO/ccg  
Enclosures  
6214

cc: James Doherty



#### Exhibit A

The FAR for this proposal is 1.5 as provided for by the mixed use bylaws. As mentioned in your correspondence, Section 5.3.6 provides for bonus space based on certain criteria.

For this proposal we are requesting a modest increase of 10% or 2,104 s.f.. This request is based on the 'Public Access' provision and will provide for a public art and presentation area located in the front right area of the lot. We intend to provide through an easement to allow various groups the opportunity to have presentations and events for the community.

#### Exhibit B

As detailed on our revised plans, we are providing open space on three sides of the proposed building; the rear, left side and in front of the building. The open space will consist of a grass landscaped area and pervious paver area. The total will be 2,741 s.f.

#### Lighting

The lighting proposed for the site will consist of energy efficient LED low profile lighting. Deflectors and other technology will be utilized to ensure lighting does not spill into the neighborhood. To ensure the desired results are achieved, we will be conducting a photometric study prior to finalizing the installation.



**To:** James Doherty  
1211 Massachusetts Avenue Realty Trust

**Date:** January 16, 2020

**From:** Michael A. Santos, PE

**Proj. No.** 28408.00

**Re:** 1211 Massachusetts Avenue – Arlington, MA  
Traffic Information Summary

BSC Group, Inc. has conducted an evaluation of the transportation characteristics and impacts of the proposed hotel development to be located at 1211 Massachusetts Avenue (the “Project”) in Arlington, Massachusetts. This evaluation provides information related to trip generation characteristics of the Project, vehicular circulation and operations on the site, and parking supply.

## Project Description

The Project will consist of the construction of a new 50-room hotel and restaurant at 1211 Massachusetts Avenue. The Project site is located along the north side of Massachusetts Avenue and is adjacent to Clark Street on the west. Vehicular access will be provided by a valet operated pick-up/drop-off area with two curb cuts along Massachusetts Avenue. Access to the parking area will be along the east side of Clark Street, on the north side of the site.

The existing site consists of both 1207 and 1211 Massachusetts Avenue and contains a 2,500 square foot (sf) Disabled American Veterans (DAV) building, a used car dealership, an automobile service station, and a three-bedroom apartment, which contains 3,031 sf. There are currently two curb cuts along Massachusetts Avenue and one curb cut along Clark Street that provide access to the existing uses on the site. The DAV building recently closed and operated similarly to a restaurant. All uses on the existing site will be demolished as part of the Project.

## Site Access

Vehicular access to the site will be limited to pick-up/drop-off and valet operations. A one-way, semi-circular driveway will be located at the front of the site, adjacent to Massachusetts Avenue. Two-curb cuts will be provided to allow westbound vehicular flow through the site, with the eastern curb cut operating as enter-only and the western curb cut operating as exit-only. An additional curb cut will be provided along the east side of Clark Street to provide access to the parking area in the rear of the building. Right-turns onto Clark Street northbound from the parking area will not occur, as the parking will be valet and controlled by the hotel operator.

Pedestrian access will be provided for the hotel lobby and the restaurant along Massachusetts Avenue. Sidewalks are currently provided along Massachusetts Avenue and Clark Street, with a painted crosswalk across Clark Street. The Project will upgrade all adjacent sidewalks, curb ramps, and crosswalks that serve the site to current standards set forth by the Americans with Disabilities Act (ADA). Bicycle racks will be provided for guests and visitors along Massachusetts Avenue. A secure and covered bicycle storage room will be provided within the lower level of the building for employees of the future uses on the site.

The Massachusetts Bay Transportation Authority (MBTA) operates the #77 and #79 buses along Massachusetts Avenue, adjacent to the Project site, with inbound and outbound stops immediately east of the site, near the intersection of Massachusetts Avenue/Appleton Street. Both buses provide access between Arlington Heights and the MBTA’s Red Line. The #77 bus provides access to Harvard Station.



approximately 4.5 miles to the east, and the #79 bus provides access to Alewife Station, approximately 2.5 miles to the east.

## Parking and Loading

The Project will provide a total of 27 parking spaces for the hotel uses. A tandem-style garage will be located in the rear of the building on the north side of the site and will contain 24 parking spaces. An additional three spaces will be located along the north side of the site in a surface lot. All parking on the site will be valet and will serve both the hotel and restaurant uses. The Project will not have any spaces for self-parking. On-street parking is allowed along both sides of Massachusetts Avenue. The Project will not change the overall number of available on-street parking spaces.

All loading and trash operations will occur in the rear of the building via the Clark Street curb cut. Deliveries will occur either in the pick-up/drop-off area or in the rear of the building, depending on the anticipated duration. Deliveries and loading operations will be limited to single-unit box trucks and smaller vehicles.

## Trip Generation

Trip generation estimates for the Project are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition. Trip generation estimates were developed for the proposed 50-room hotel. Table 1 presents the trip generation for the Project.

**Table 1**  
**Trip Generation Summary**

	Project Trips			Existing Trips					
				Automobile					
Time Period	Hotel <sup>1</sup>	Restaurant <sup>2</sup>	Total	DAV Club <sup>2</sup>	Auto Dealership <sup>3</sup>	Service Station <sup>4</sup>	Apartment <sup>5</sup>	Total	Net Change
<b>AM Peak Hour</b>									
Entering	14	15	29	15	1	3	0	19	+10
Exiting	<u>10</u>	<u>13</u>	<u>23</u>	<u>13</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>15</u>	<u>+8</u>
Total	24	28	52	28	1	4	1	34	+18
<b>PM Peak Hour</b>									
Entering	15	17	32	17	0	3	1	21	+11
Exiting	<u>15</u>	<u>10</u>	<u>25</u>	<u>10</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>13</u>	<u>+12</u>
Total	30	27	57	27	1	5	1	34	+23

1 Based on ITE Land Use Code (LUC) 310 – Hotel (50 Rooms)

2 Based on ITE LUC 932 – High Turnover Sit Down Restaurant (2,800 sf)

3 Based on ITE LUC 841 – Automobile Sales, Used (264 sf)

4 Based on ITE LUC 942 – Automobile Care Center (1,650 sf)

5 Based on ITE LUC 220 – Multi-Family Housing, Low-Rise (1 unit)

Based on the trip generation and mode share data, the Project is expected to generate 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday evening peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.

The peak hour trips are typically the most critical because those time periods are when the adjacent roadways experience the highest traffic demands throughout the course of the day. The peak hour increases represent



approximately one additional trip every 2-4 minutes.

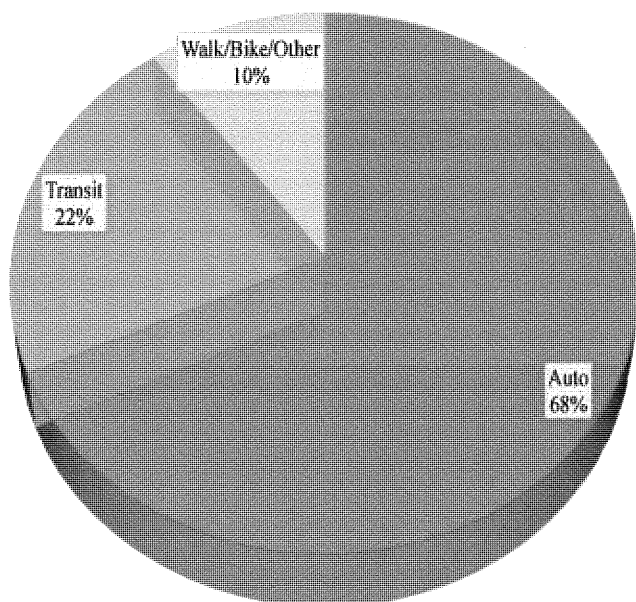
The trip generation estimates provided in Table 1 do not consider alternative modes of transportation such as walking, bicycling, and transit usage. Based on the location of the site and the proximity to two highly used MBTA bus routes (Routes #77 and #79), it is expected that a portion of the trips will be made by public transportation. It is also expected that a portion of the hotel-related trips will be made by taxi or ride-hailing service and will not use Clark Street for parking purposes. The following section discusses the mode shares for travel in the vicinity of the Project.

## Modes of Travel

Mode-split data for the census tract in Arlington in which the Project site is located were obtained from the United States Census. The primary modes of travel for the Project are expected to be transit, walk/bicycling, and vehicular usage. The US Census provides travel mode shares over the course of an average weekday for commuting purposes only. However, the mode shares to provide an insight into the availability and convenience of non-vehicular modes of travel. The mode shares for the census tract in which the Project site is located are presented in **Figure 1**.

**Figure 1**  
**Modes of Travel**

DAILY MODE SHARE  
ARLINGTON, MASSACHUSETTS



As shown in Figure 1, the predominant mode of commuting travel in this area of Arlington is by vehicle (68 percent). Transit trips account for approximately 22 percent of travel and the remaining 10 percent of trips are made by walking, biking, or other travel modes.

As previously stated, the mode shares represent daily commuting trips. It is expected that the hotel and restaurant usage of the Project will include taxi trips and may not exactly reflect commuting patterns. Additionally, the restaurant will serve the hotel guests and residents of the surrounding neighborhoods, allowing for a further reduction in vehicle-based trips. Further, the commuter mode share percentages do indicate that there are opportunities other than driving for guests of the hotel once they are on-site.

## Summary

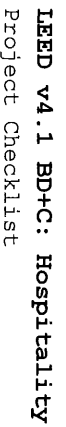
This evaluation indicates that the proposed development is expected to generate a minimal amount of vehicular traffic during the commuter peak hours (approximately one new trip every 3-4 minutes). The Project is expected to have a minimal impact on the surrounding roadway network throughout most of the day. The periods that will experience the most impact will occur mostly during off-peak hours. Hotels typically have check-in times in the early afternoon and check-out times in the late morning, which occur



outside of commuter peaks. The restaurant will have the highest impacts after the weekday evening commuter peak hour when traffic volumes are typically lower.

The Project will provide on-site parking for 27 vehicles, which will be operated by the hotel's valet service. Self-parking will not be provided on the site. The parking will be valet-only and will be operated by the hotel. Right-turns from the parking area on to Clark Street northbound will not occur and the Project will have minimal impact to the residential neighborhood north of the site. All loading, trash servicing, and deliveries will occur on the Project site and will not have impacts to Massachusetts Avenue or Clark Street. As part of the Project, all adjacent sidewalks, crosswalks, and curb ramps will be upgraded in accordance with ADA standards.





**LEED v4.1 BD+C: Hospitality**  
Project Checklist

Lexington Hotel

1/20/2020

0	0	0	0	Materials and Resources	13
Y				Prearg Storage and Collection of Recyclables	Required
X				Prearg Construction and Demolition Waste Management Planning	Required
				Credit Building Life-Cycle Impact Reduction	5
				Credit Building Product Disclosure and Optimization - Environmental Product	2
				Credit Building Product Disclosure and Optimization - Sourcing of	2
X				Credit Building Product Disclosure and Optimization - Material Im	2
Y				Credit Construction and Demolition Waste Management	2

Y	Prereq	Minimum Indoor Air Quality Performance	Required
Y	Prereq	Environmental Tobacco Smoke Control	Required
		Enhanced Indoor Air Quality Strategies	2
		Low-Emitting Materials	3
Y	Credit	Construction Indoor Air Quality Management Plan	1
		Indoor Air Quality Assessment	2
Y	Credit	Thermal Comfort	1
Y	Credit	Interior Lighting	2

Y		Credit	Quality Views	1
Y		Credit	Acoustic Performance	1
0	0	0	<b>Innovation</b>	<b>6</b>
		Credit	Innovation	5
Y		Credit	LEED Accredited Professional	1
0	0	0	<b>Regional Priority</b>	<b>4</b>

	Credit	Regional Priority: Specific Credit	1
	Credit	Regional Priority: Specific Credit	1
	Credit	Regional Priority: Specific Credit	1
<b>52</b>	<b>0</b>	<b>TOTALS</b>	<b>Possible Points: 110</b>
		40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum	

70 of 515



# SPECIAL PERMIT - SITE PLAN REVIEW

1211 Massachusetts Avenue  
Arlington, MA 02476

December 12, 2019



LINCOLN ARCHITECTS LLC  
1 Mount Vernon Street, Suite 203  
Winchester, MA 01890  
781.721.7721

## LOCUS PLAN



## DRAWING LIST

ARCHITECTURAL	
COVER SHEET	
L1.1	EXISTING CONDITION DIAGRAM
L1.2	PROPOSED PLOT PLAN
L1.3	SITE PLAN / LANDSCAPING PLAN
A0.1	RENDERING IMAGE / VIEW FROM MASSACHUSETTS AVENUE
A0.2	RENDERING IMAGE / BIRDS EYE VIEW FROM MASSACHUSETTS AVENUE
A1.1	LOWER LEVEL/MAIN LEVEL FLOOR PLAN
A1.2	SECOND & THIRD FLOOR PLAN/FOURTH FLOOR PLAN
A4.1	BUILDING ELEVATIONS
A4.2	BUILDING ELEVATIONS
A5.1	EXISTING BUILDING - SHADOW STUDY/SUMMER SOLSTICE
A5.2	EXISTING BUILDING - SHADOW STUDY/WINTER SOLSTICE
A5.3	EXISTING BUILDING - SHADOW STUDY/AUTUMN EQUINOX
A5.4	EXISTING BUILDING - SHADOW STUDY/SPRING EQUINOX
A6.1	PROPOSED BUILDING - SHADOW STUDY/SUMMER SOLSTICE
A6.2	PROPOSED BUILDING - SHADOW STUDY/WINTER SOLSTICE
A6.3	PROPOSED BUILDING - SHADOW STUDY/AUTUMN EQUINOX
A6.4	PROPOSED BUILDING - SHADOW STUDY/SPRING EQUINOX





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Revisions


**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**EXISTING CONDITRIONS**

Project Number  
2017.032  
Drawing Scale  
1" = 20'  
Drawn By  
GMc  
Checked By  
GMc  
Date Issued  
12/12/19

**L1.1**



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**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**SITE PLAN**

Project Number

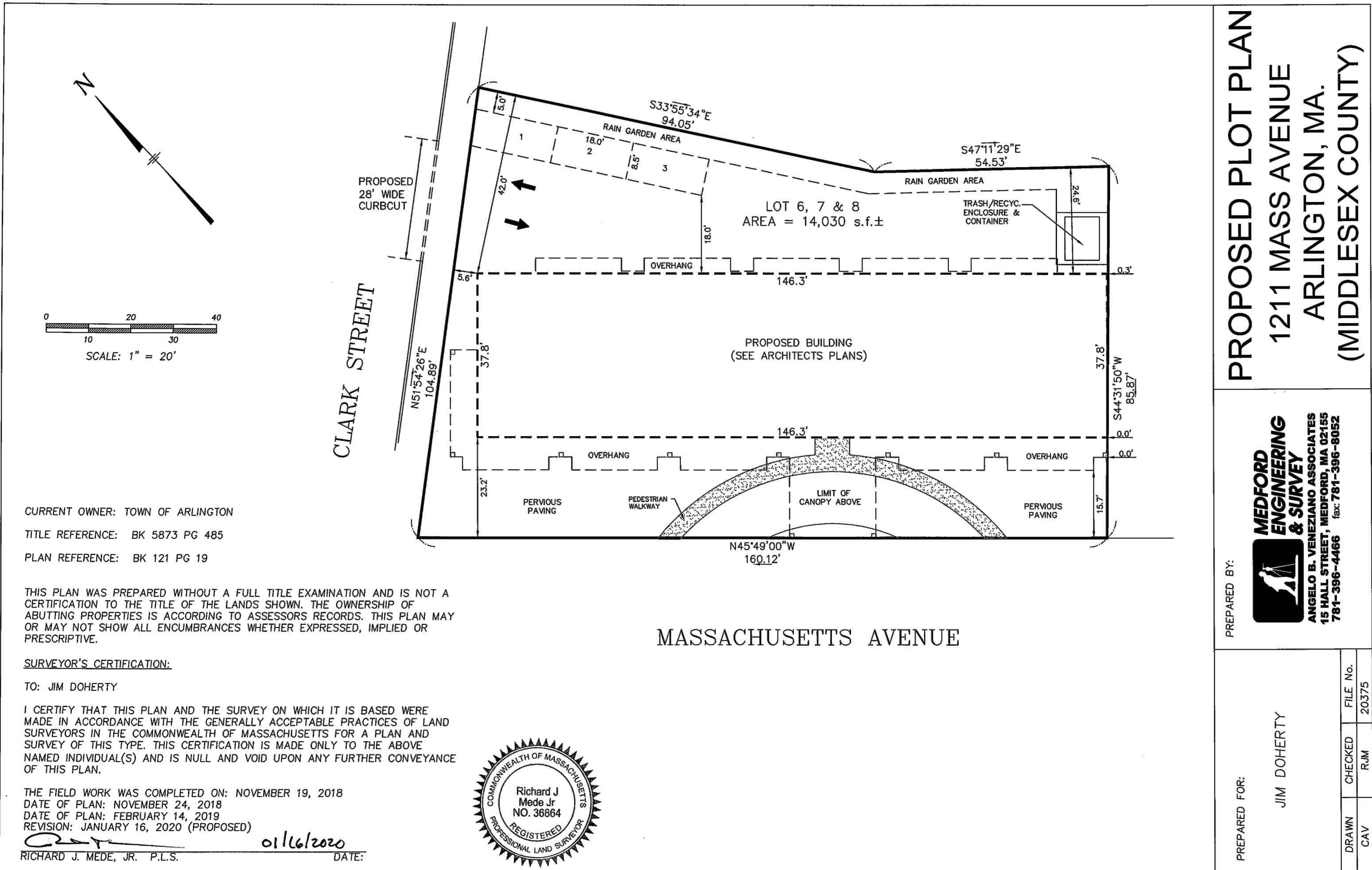
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Drawn By  
GMc

Checked By  
GMc

Date Issued  
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L1.2







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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMc

Checked By  
GMc

Date Issued  
12/12/19

A0.1



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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMc

Checked By  
GMc

Date Issued  
12/12/19

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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING  
STREET VIEW #1

Project Number  
2017.032

Drawing Scale  
N.T.S.

Drawn By  
GMc

Checked By  
GMc

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A0.3







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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING  
STREET VIEW #2

Project Number  
2017.032

Drawing Scale  
N.T.S

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GMc

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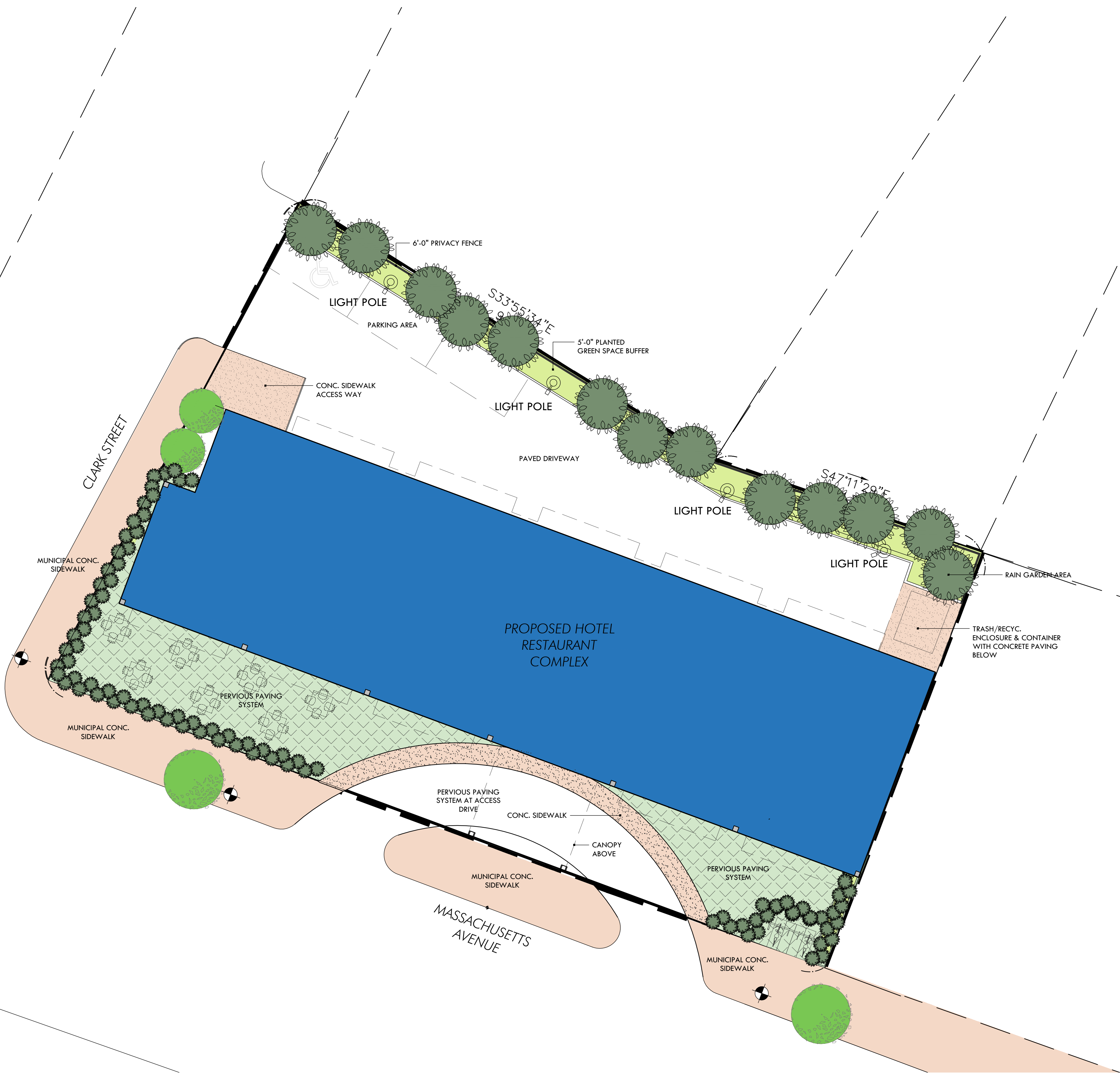
Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

PLANTING PLAN

Project Number  
2017.032  
Drawing Scale  
3/32"=1'-0"  
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Checked By  
GMc  
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L1.3





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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

LOWER LEVEL  
FIRST FLOOR  
FLOOR PLANS

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMc

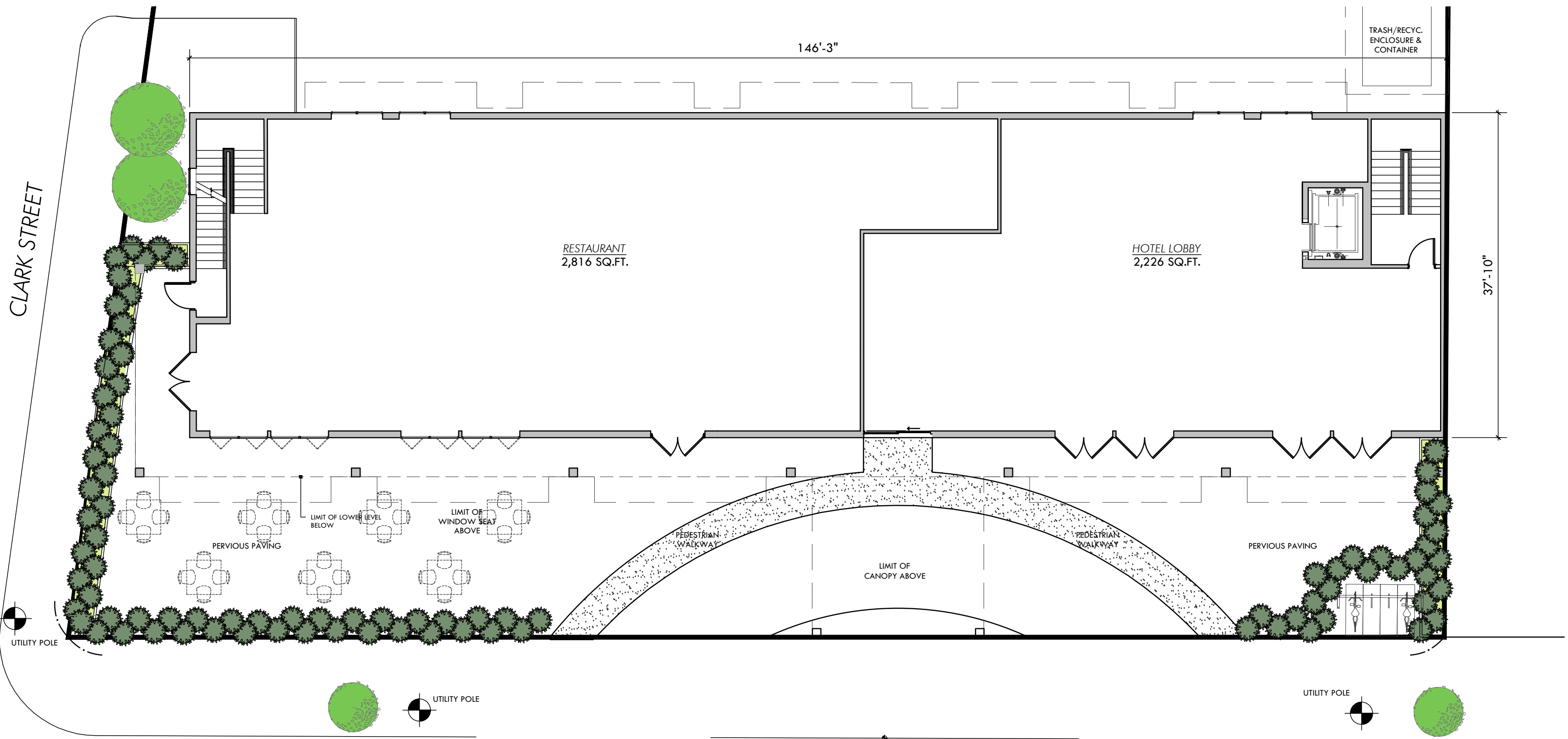
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Date Issued  
12/12/19

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1 LOWER LEVEL FLOOR PLAN  
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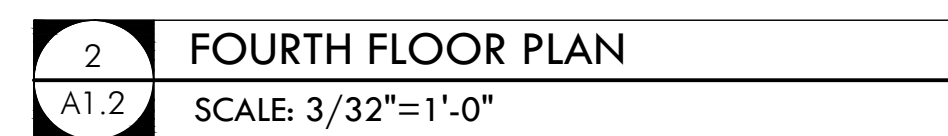
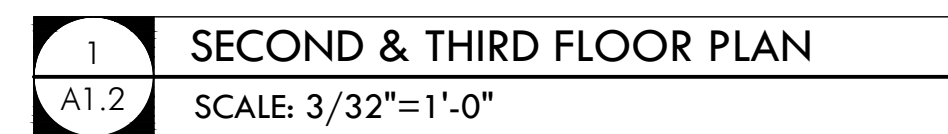
2 FIRST FLOOR PLAN  
A1.1 SCALE: 3/32"=1'-0"



## Revisions

SECOND & THIRD FLOOR PLAN  
FOURTH FLOOR PLAN

## A1.2





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**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**BUILDING ELEVATIONS**

Project Number  
2017.032

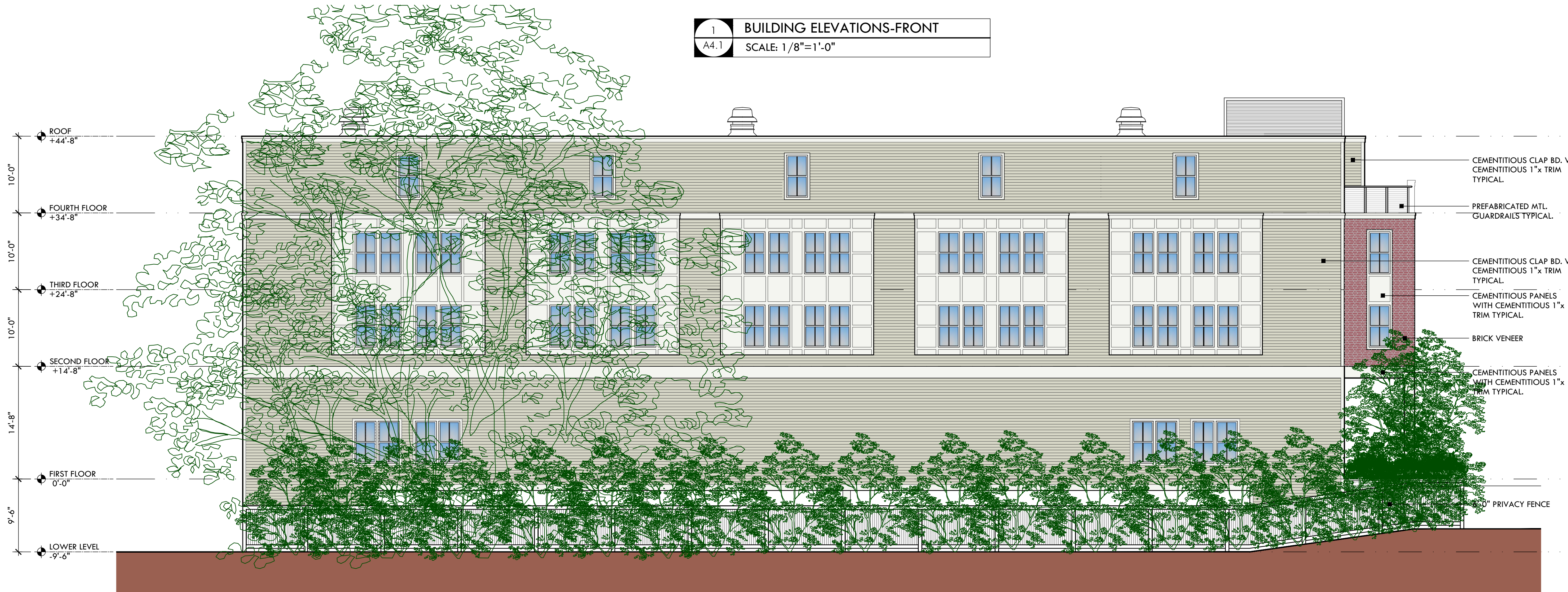
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GMc

Date Issued  
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**A4.1**







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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

BUILDING ELEVATIONS

Project Number
2017.032
Drawing Scale
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Drawn By
GMc
Checked By
GMc
Date Issued
12/12/19

A4.2





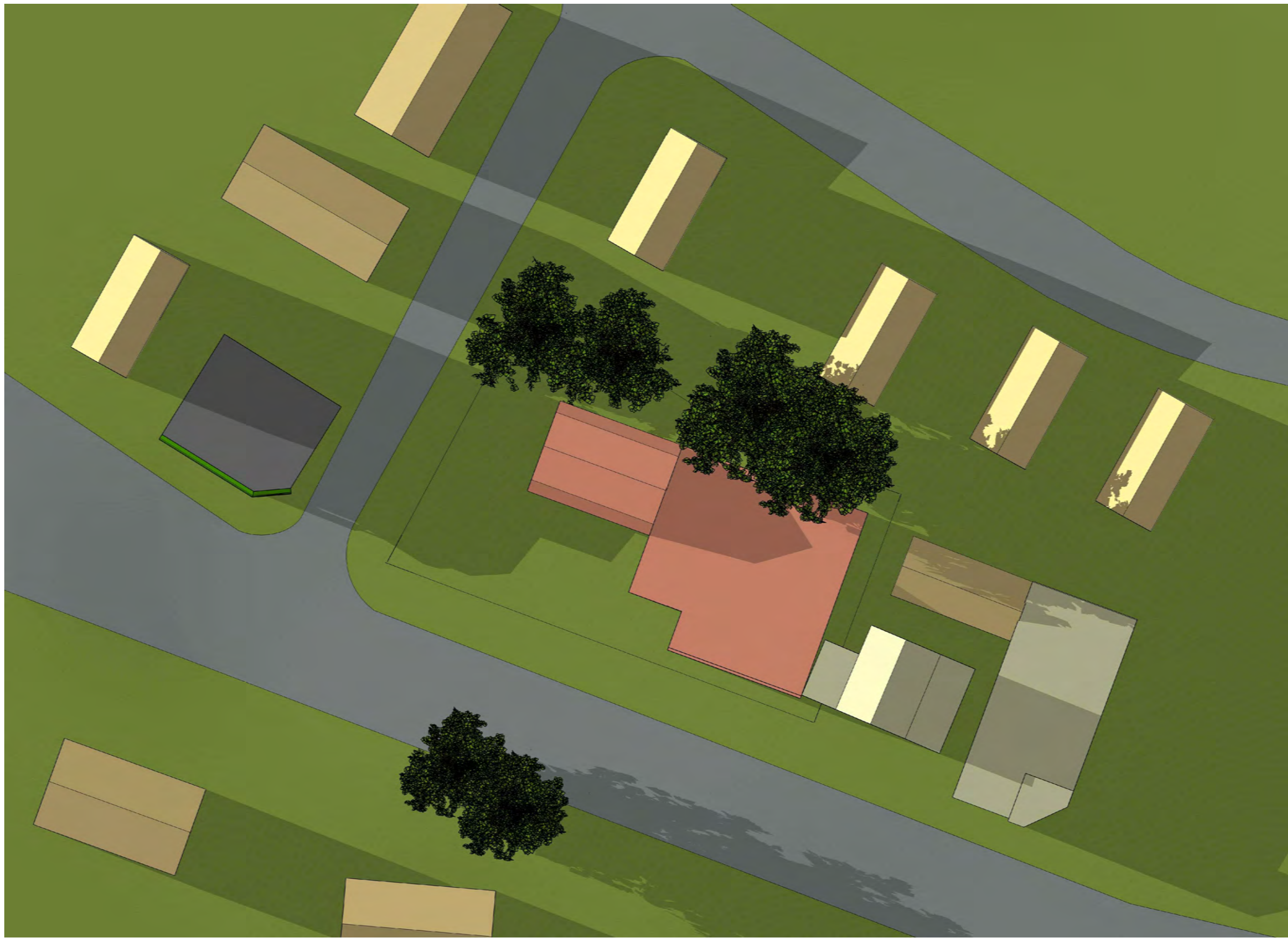
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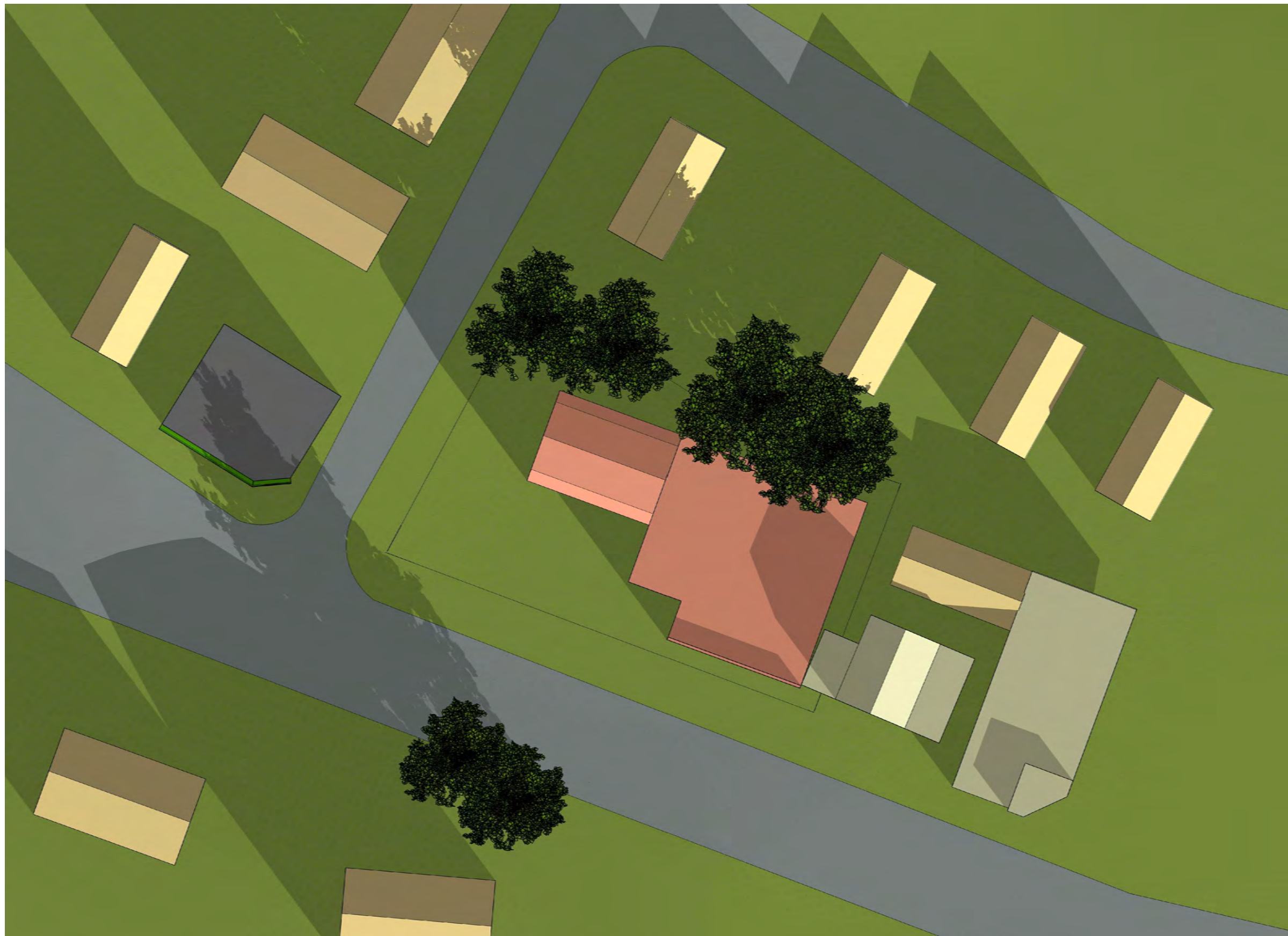
PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
SUMMER SOLSTICE

Project Number  
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Drawing Scale  
N.T.S.  
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Checked By  
GMe  
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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
WINTER SOLSTICE

Project Number 2017.032
Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 12/12/19





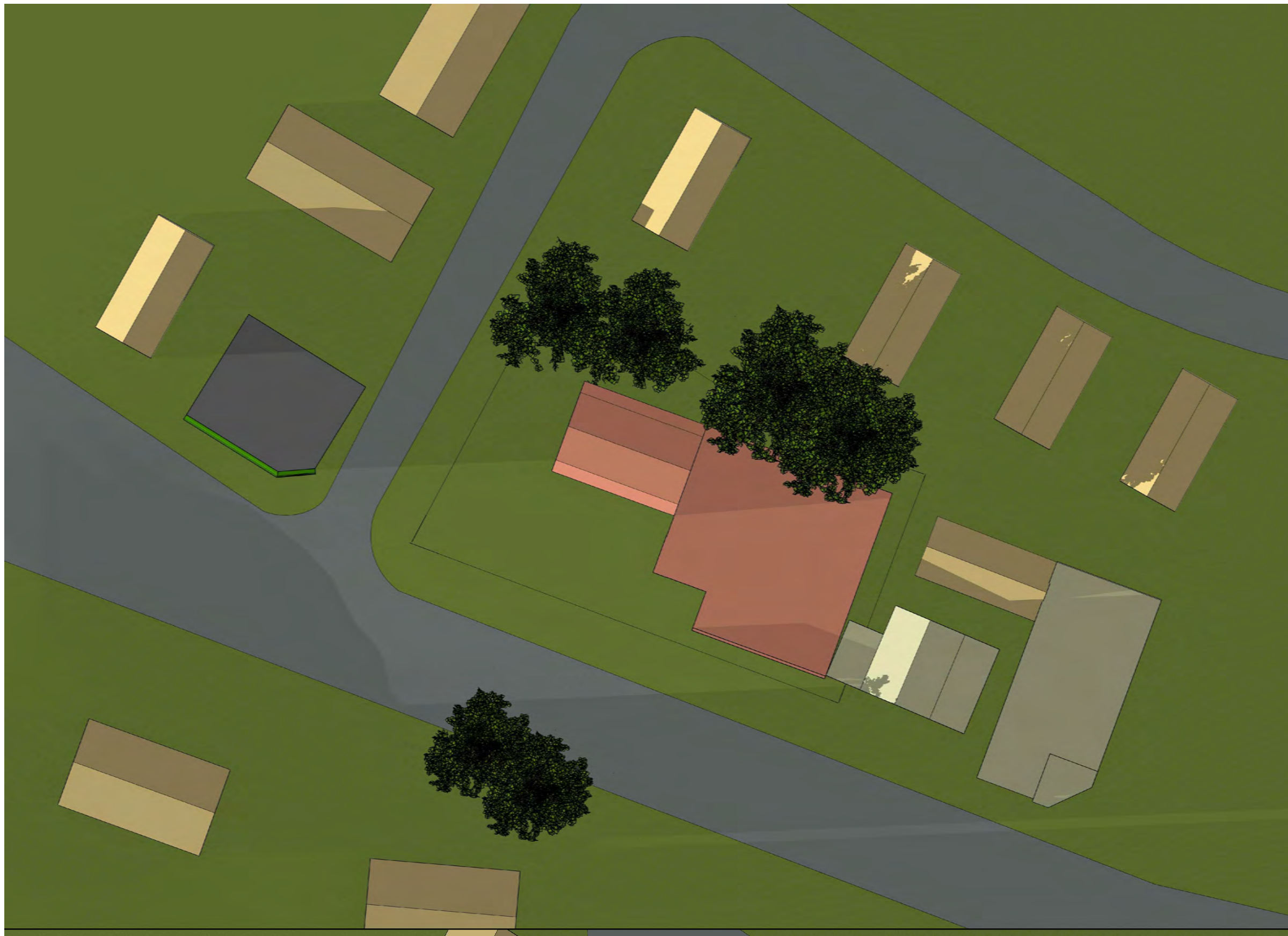
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**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**SHADOW STUDY**  
EXISTING CONDITIONS  
AUTUMN EQUINOX

Project Number  
2017.032

Drawing Scale  
N.T.S.

Drawn By  
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GMe

Date Issued  
12/12/19

A5.3





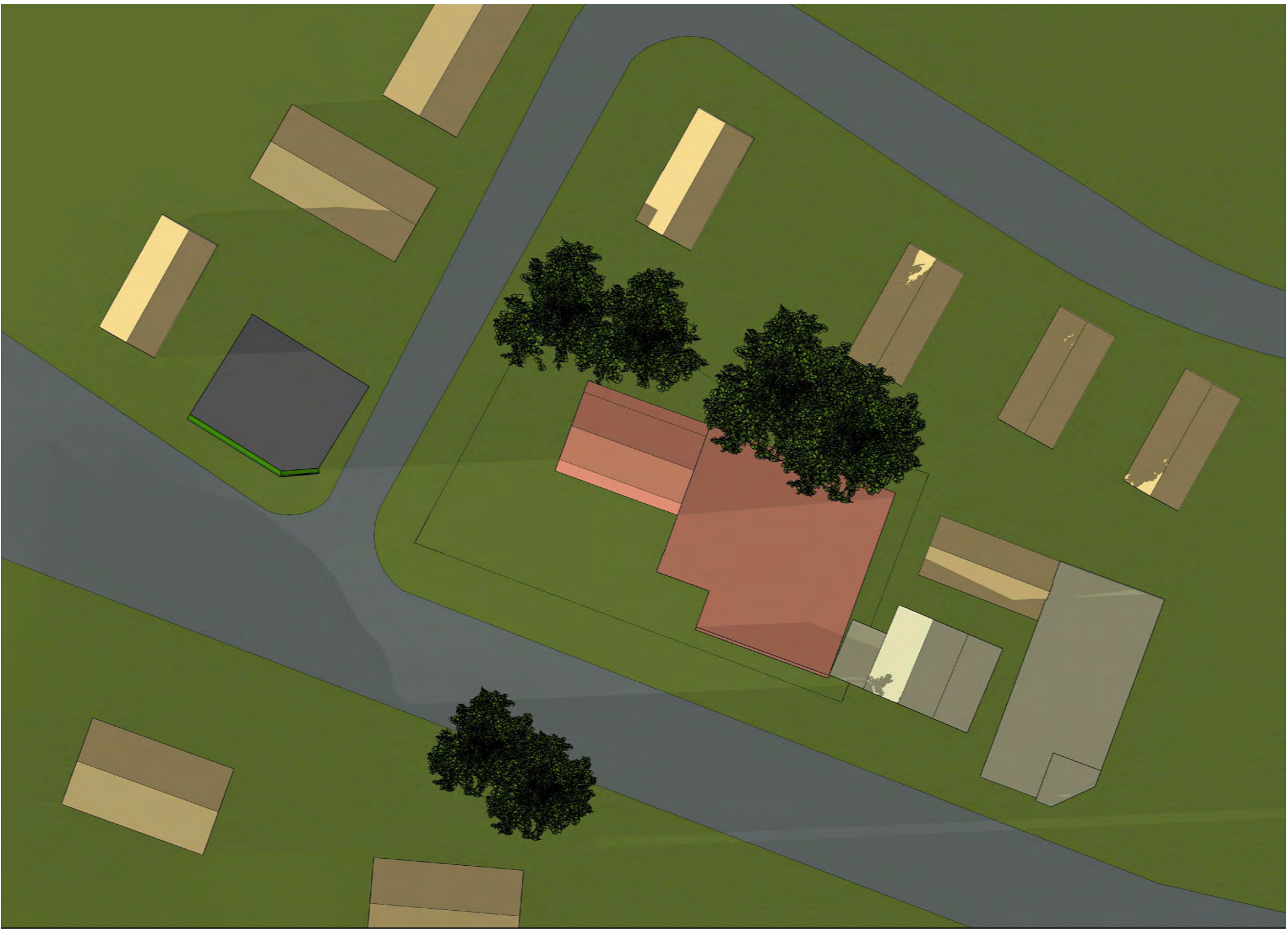
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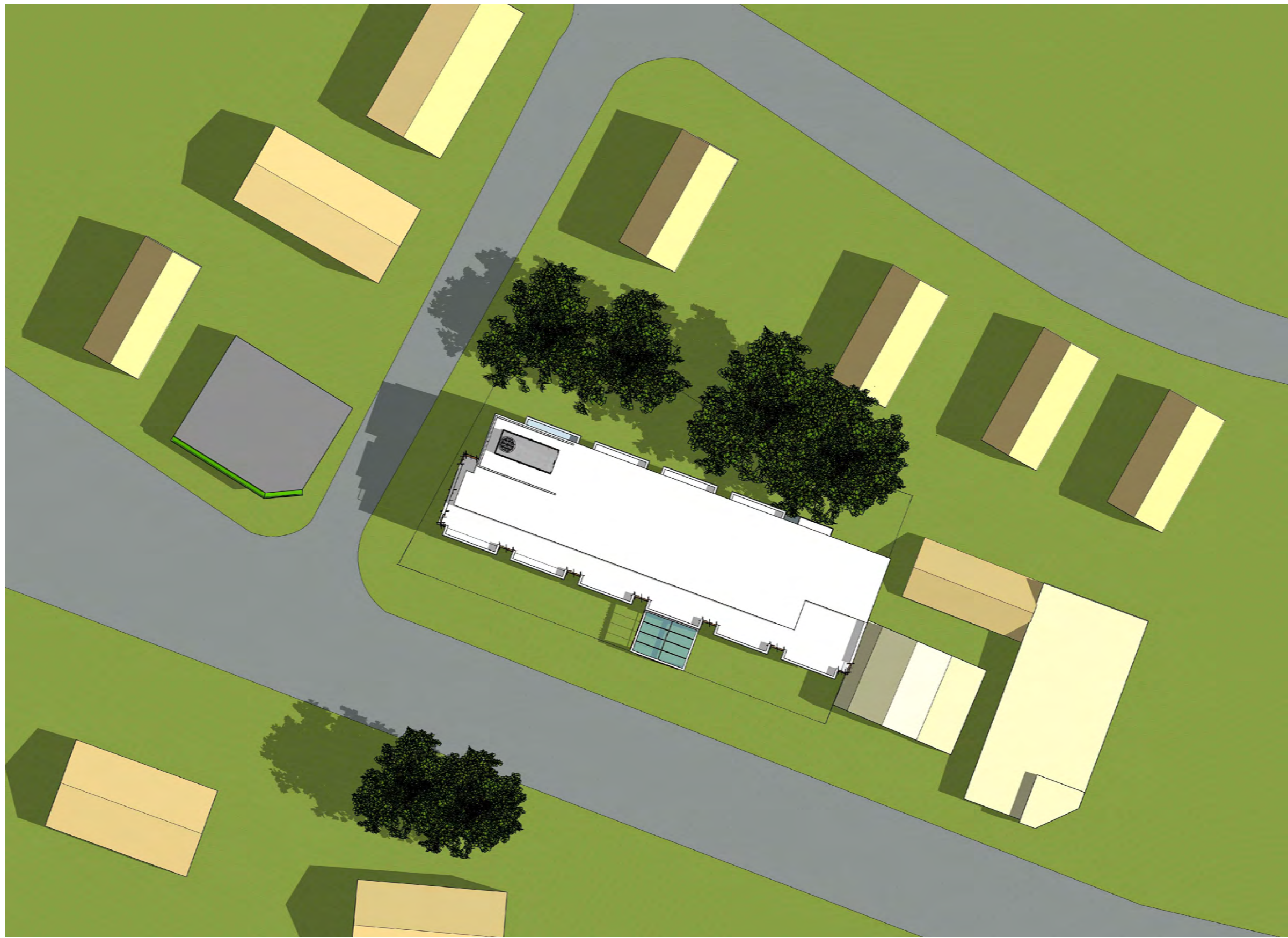
PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
SPRING EQUINOX

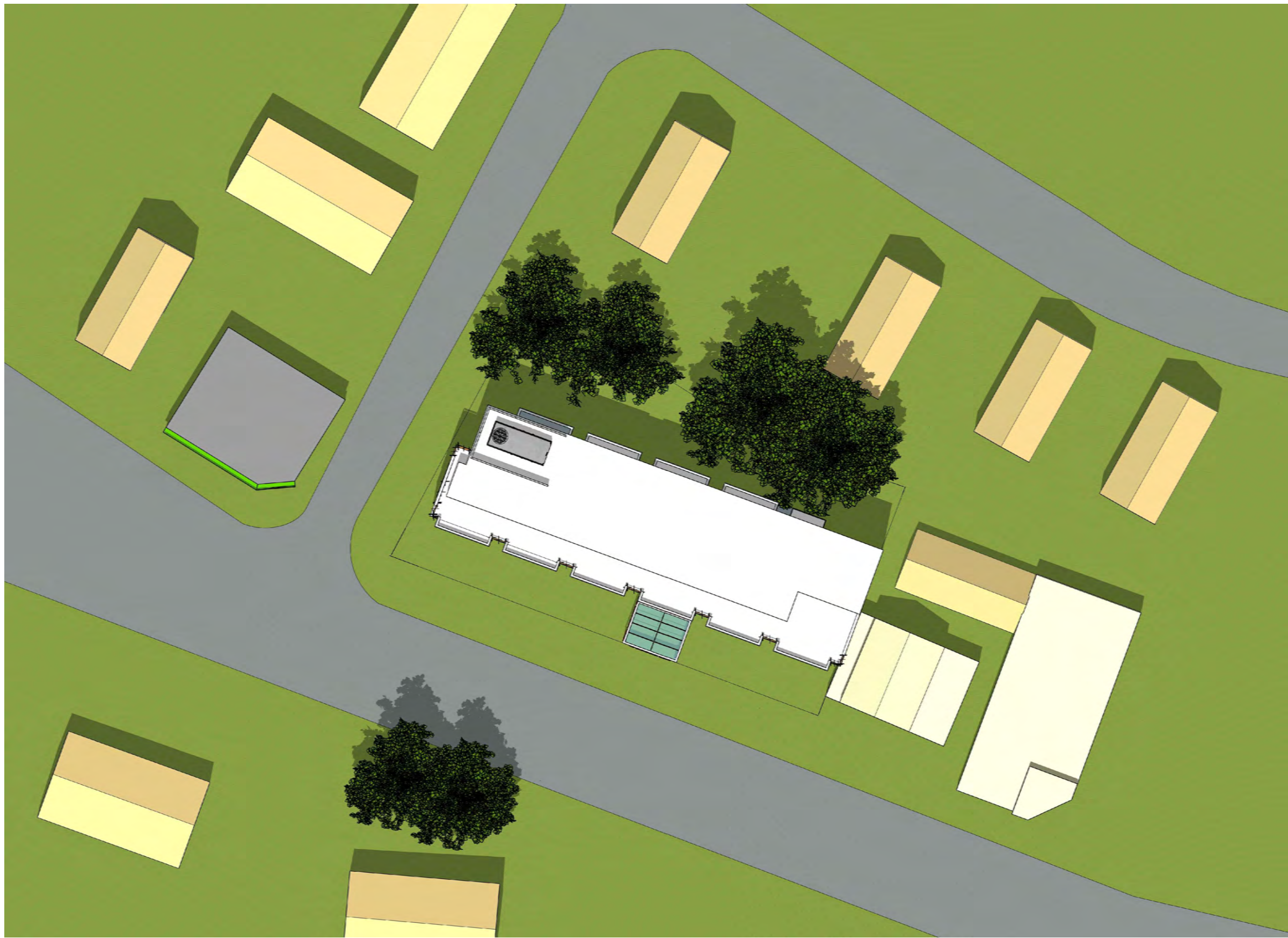
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Drawn By  
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Checked By  
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Date Issued  
12/12/19

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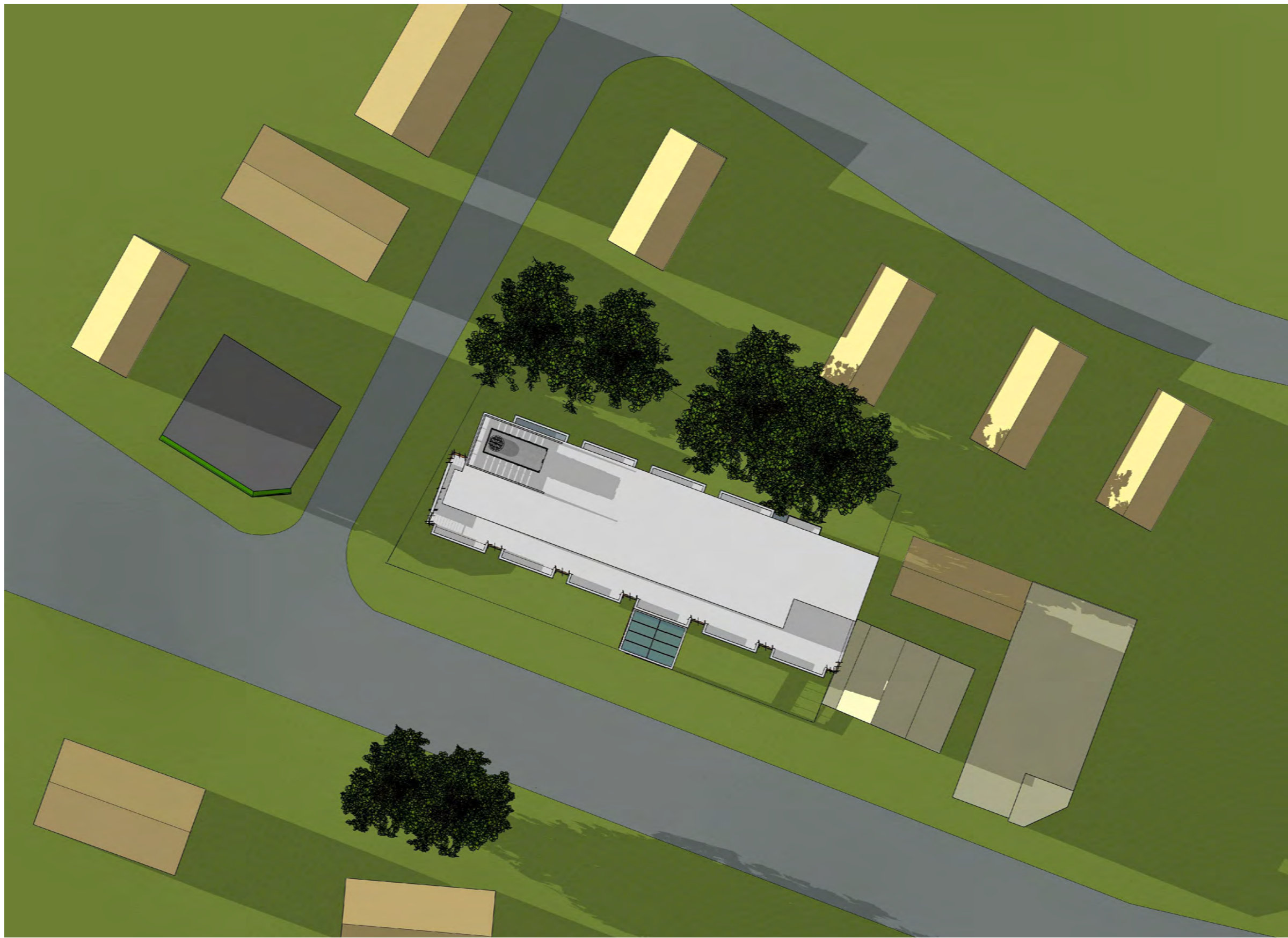
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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
PROPOSED BUILDING  
SUMMER SOLSTICE

Project Number  
2017.032

Drawing Scale  
N.T.S.

Drawn By  
GMe

Checked By  
GMe

Date Issued  
12/12/19

A6.1





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**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**SHADOW STUDY**  
**PROPOSED BUILDING**  
**WINTER SOLSTICE**

Project Number  
2017.032

Drawing Scale  
N.T.S.

Drawn By  
GMe

Checked By  
GMe

Date Issued  
12/12/19

**A6.2**





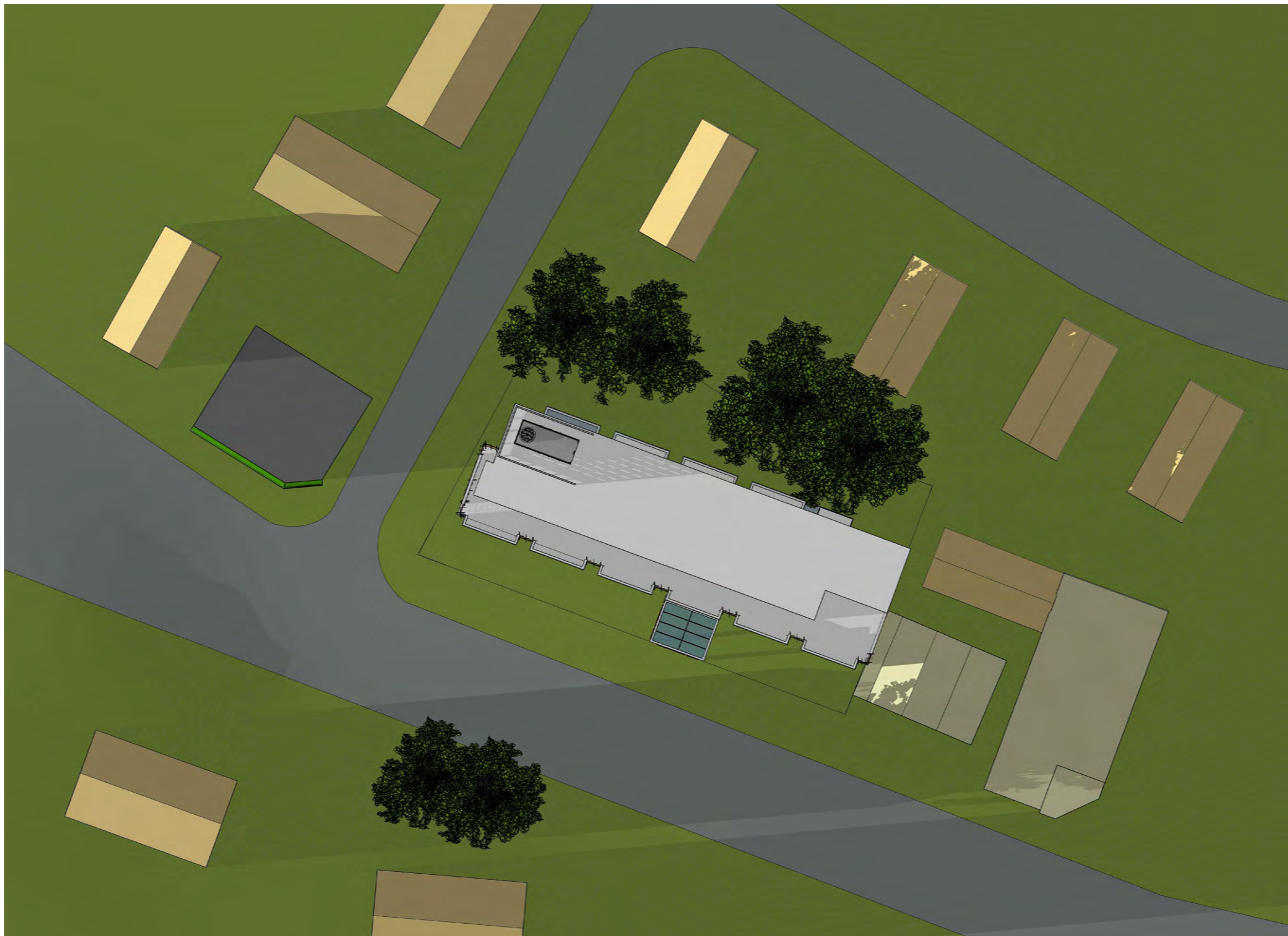
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PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
PROPOSED BUILDING  
AUTUMN EQUINOX

Project Number 2017.032
Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 12/12/19

A6.3





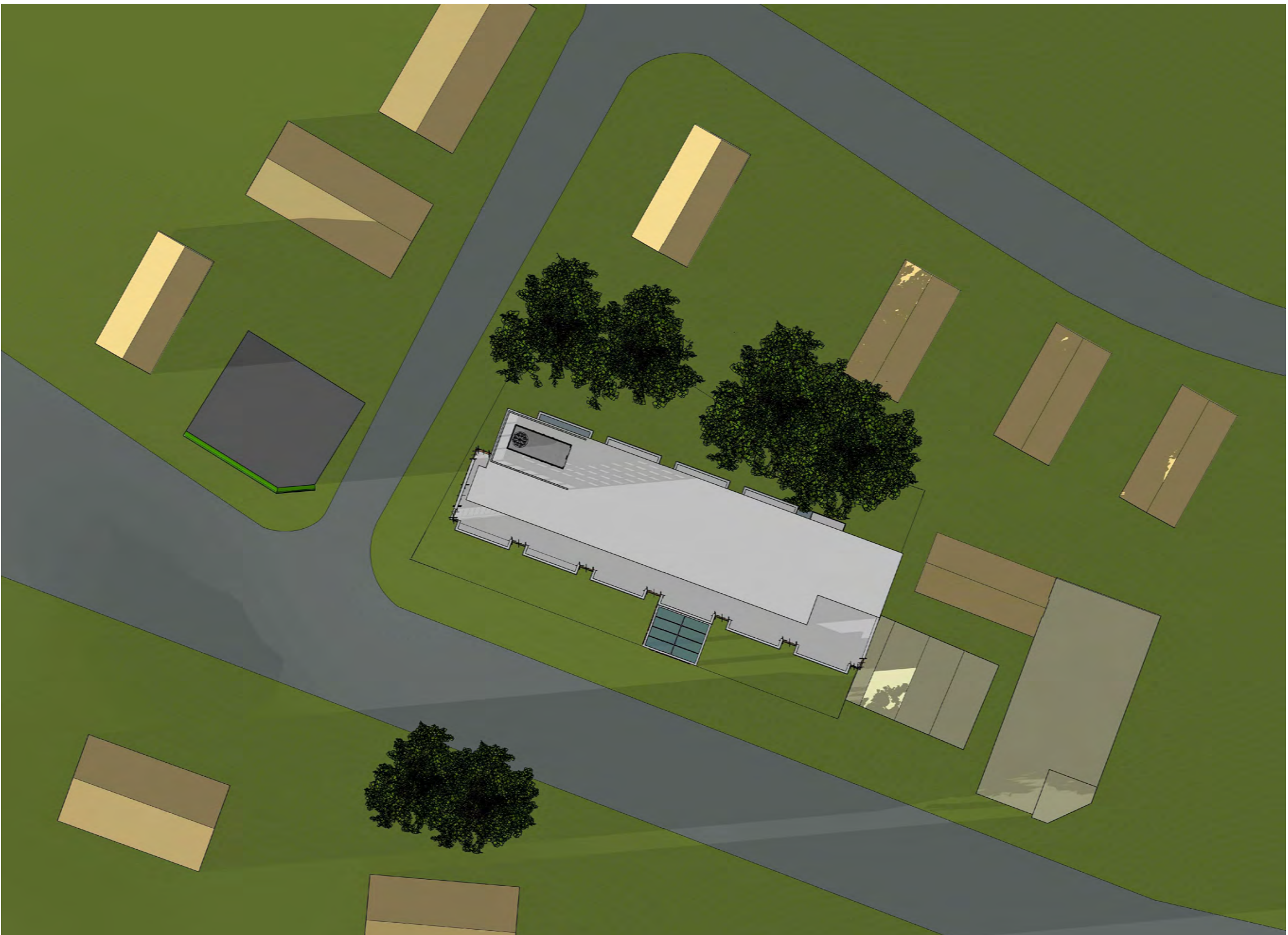
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Revisions


**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**SHADOW STUDY**  
**PROPOSED BUILDING**  
**SPRING EQUINOX**

Project Number  
2017.032

Drawing Scale  
N.T.S.

Drawn By  
GMe

Checked By  
GMe

Date Issued  
12/12/19

**A6.4**



# SPECIAL PERMIT - SITE PLAN REVIEW

1211 Massachusetts Avenue  
Arlington, MA 02476

June 23, 2020



LINCOLN ARCHITECTS LLC  
1 Mount Vernon Street, Suite 203  
Winchester, MA 01890  
781.721.7721

## LOCUS PLAN



## DRAWING LIST

ARCHITECTURAL	
COVER SHEET	
L1.1	EXISTING CONDITION DIAGRAM
L1.2	LANDSCAPING PLAN
1 OF 1 PROPOSED SITE PLAN	
1 OF 1 PROPOSED TURNING RADIUS PLAN	
ES.1 SITE PHOTOMETRIC PLAN	
A0.1	RENDERING IMAGE / VIEW FROM MASSACHUSETTS AVENUE
A0.2	RENDERING IMAGE / BIRDS EYE VIEW FROM MASSACHUSETTS AVENUE
A0.3	RENDERED IMAGE / SET IN PHOTO-VIEW FROM MASSACHUSETTS AVENUE I
A0.4	RENDERED IMAGE / SET IN PHOTO-VIEW FROM MASSACHUSETTS AVENUE II
A0.5	RENDERED IMAGE / SET IN PHOTO-VIEW FROM CLARK STREET
A1.1	LOWER LEVEL/MAIN LEVEL FLOOR PLAN
A1.2	SECOND & THIRD FLOOR PLAN/FOURTH FLOOR PLAN
A3.1	ROOF PLAM / BUILDING SECTION
A4.1	BUILDING ELEVATIONS
A4.2	BUILDING ELEVATIONS
A5.1	EXISTING BUILDING - SHADOW STYDY/SUMMER SOLSTICE
A5.2	EXISTING BUILDING - SHADOW STYDY/WINTER SOLSTICE
A5.3	EXISTING BUILDING - SHADOW STYDY/AUTUMN EQUINOX
A5.4	EXISTING BUILDING - SHADOW STYDY/SPRING EQUINOX
A6.1	PROPOSED BUILDING - SHADOW STYDY/SUMMER SOLSTICE
A6.2	PROPOSED BUILDING - SHADOW STYDY/WINTER SOLSTICE
A6.3	PROPOSED BUILDING - SHADOW STYDY/AUTUMN EQUINOX
A6.4	PROPOSED BUILDING - SHADOW STYDY/SPRING EQUINOX





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Revisions


**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**EXISTING CONDITRIONS**

Project Number  
2017.032  
Drawing Scale  
1" = 20'  
Drawn By  
GMc  
Checked By  
GMc  
Date Issued  
06/23/20

**L1.1**



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Revisions

**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

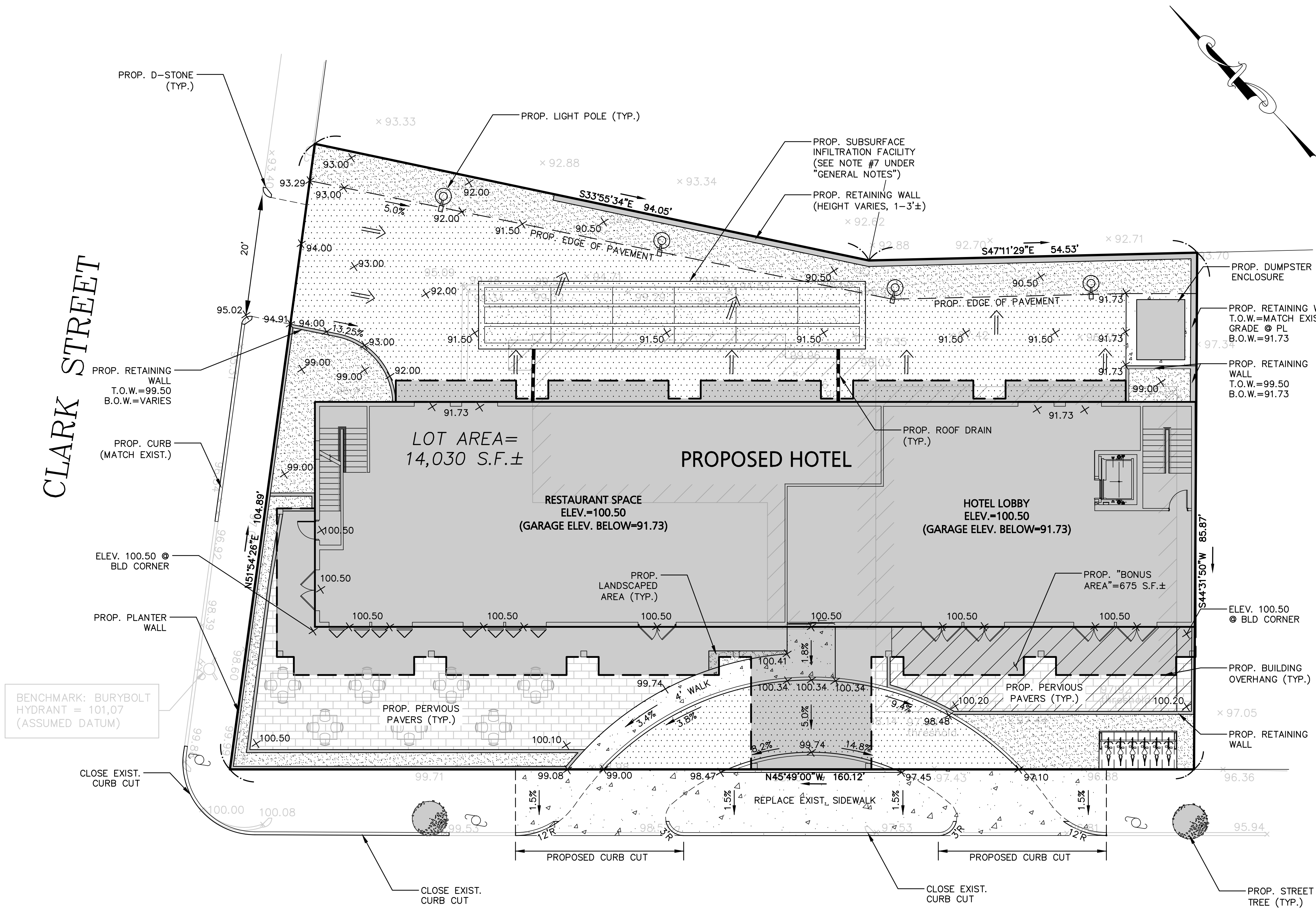
**LANDSCAPE PLAN**

Project Number  
2017.032  
Drawing Scale  
3/32"=1'-0"  
Drawn By  
GMc  
Checked By  
GMc  
Date Issued  
06/23/20

**L1.2**



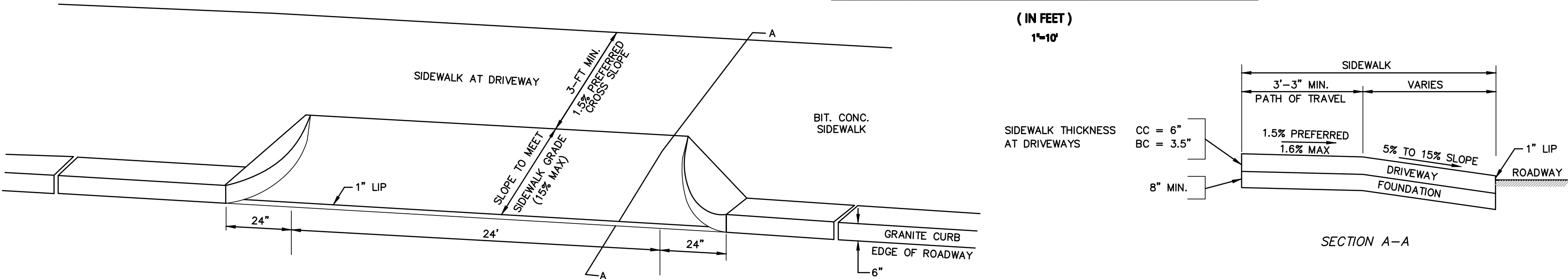
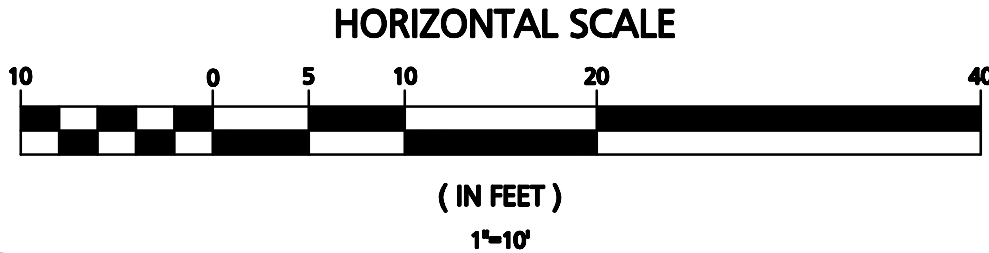




LEGEND - GRADING PLAN	
PROPERTY LINE	
PROPOSED CURB	
PROPOSED BUILDING	
PROPOSED BUILDING OVERHANG	
PROPOSED SPOT SHOT	100.50
PROPOSED FLOW ARROW	
PROPOSED BIT. CONC.	
PROPOSED LANDSCAPING	
PROPOSED CEM. CONC.	
PROPOSED PERV. PAVER	
PROPOSED WALL	

- GENERAL NOTES:**
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DISSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
  - THE CONTRACTOR SHALL EXCAVATE TEST PITS PRIOR TO COMMENCING WORK TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITY SERVICES.
  - ALL PROPOSED WORK SHALL BE PERFORMED IN FULL COMPLIANCE WITH THE TOWN OF ARLINGTON, AND IS SUBJECT TO QUALITY CONTROL TESTING AT THE DISCRETION OF THE ENGINEERING DEPT. AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ARLINGTON D.P.W. PRIOR TO THE COMMENCEMENT OF ANY UTILITY WORK.
  - ANY CHANGE IN THE FIELD CONDITIONS SHOULD BE REPORTED TO THE ENGINEER TO ENSURE THAT ANY MODIFICATIONS TO THE ORIGINAL DESIGN CONFORM TO STANDARD ENGINEERING AND CONSTRUCTION PRACTICES AND ADEQUATE TO SERVE THE PROJECT'S NEEDS AND COMPLY WITH APPLICABLE STANDARDS AND REGULATIONS.
  - REFER TO ARCHITECTURAL PLANS FOR PROPOSED PARKING LAYOUT.
  - SIZE, LOCATION, AND DEPTH OF PROPOSED SUBSURFACE INFILTRATION FACILITY IS SHOWN FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO DIG A TEST PIT TO DETERMINE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION. THE AREA DESIGNATED FOR SUBSURFACE INFILTRATION SHOWN ON THIS PLAN ASSUMES THE VOLUME OF A 10-YEAR STORM EVENT FOR THE PROPOSED ROOF AREA ONLY. THIS AREA IS BASED ON THE VOLUME PROVIDED BY CULTEC R-150XLHD CHAMBERS AND ASSUMES SEPARATION TO THE ESTIMATE SEASONAL HIGH WATER TABLE IS SUFFICIENT. ALL CONDITIONS WILL NEED TO BE VERIFIED PRIOR TO FINAL DESIGN OF SYSTEM.

MASSACHUSETTS AVENUE



DRIVEWAY DETAIL

NOT TO SCALE

PREPARED BY:

PROJECT:

PROPOSED SITE PLAN

1211 MASSACHUSETTS AVENUE  
(PARCEL ID: 58-11-1 & 57-4-14)

ARLINGTON, MASSACHUSETTS

DATE: June 18, 2020

DWG FILE NAME: 20-59805.dwg

SCALE: AS NOTED

DESIGN BY: Eric Bradanes, P.E.

PREPARED FOR:

Lincoln Architects LLC

1 Mount Vernon Street, Suite 203

Winchester, Massachusetts 01890

DWG. NO.

10f1

DRAWING TITLE:

Grading Plan

Engineering Alliance, Inc.

Civil Engineering & Land Planning Consultants

194 Central Street

Saugus, MA 01906

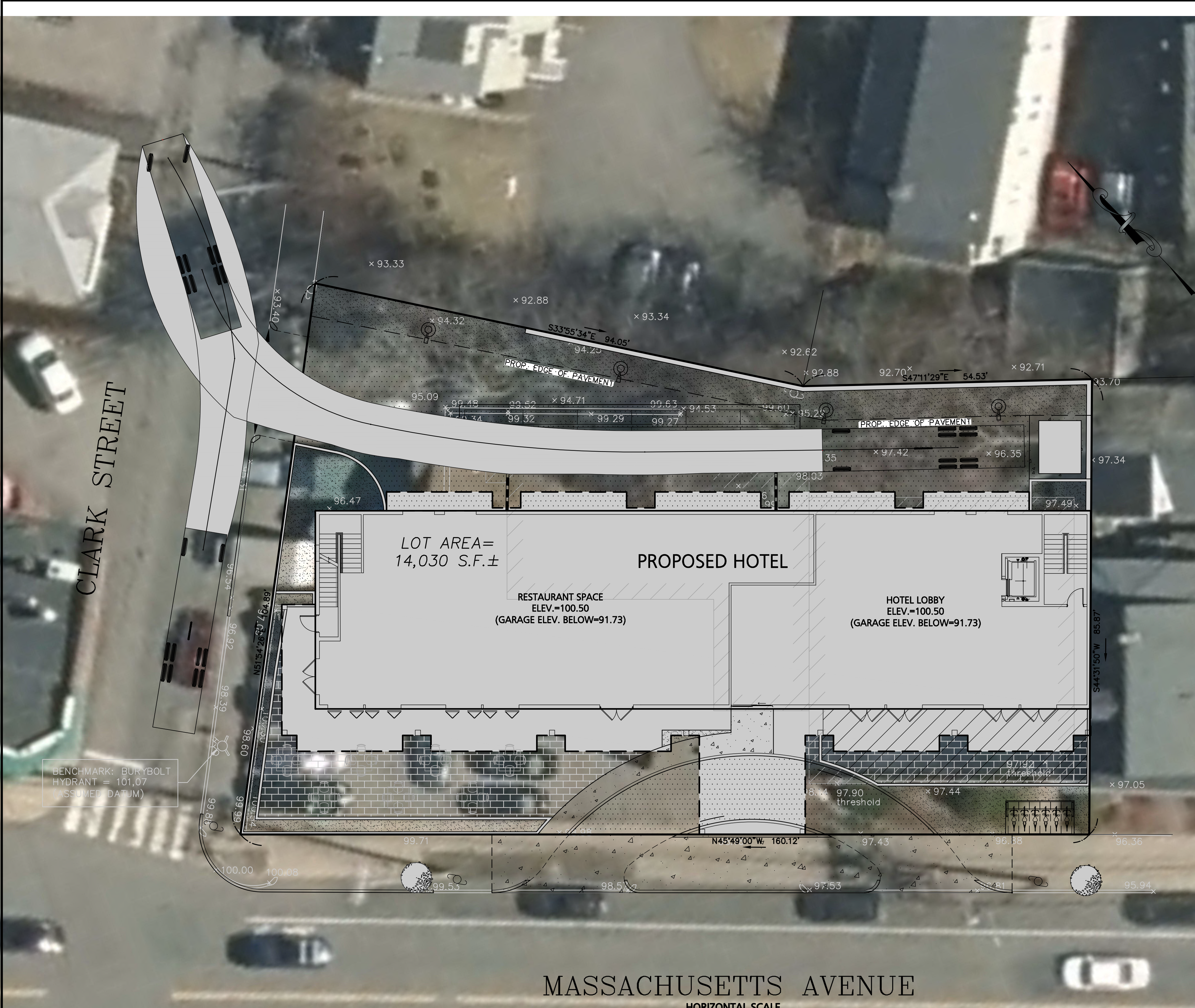
Tel: (781) 231-1349

Fax: (781) 417-0020

DATE

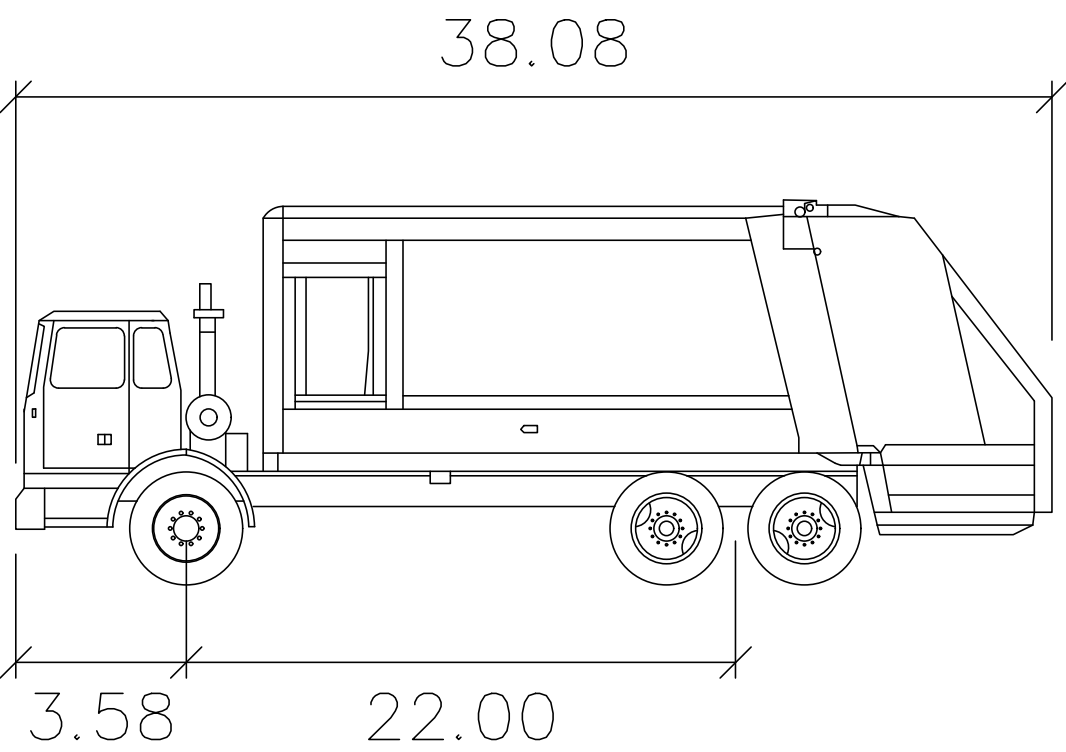
DESCRIPTION OF REVISION





LEGEND - GRADING PLAN	
PROPERTY LINE	---
PROPOSED CURB	==
PROPOSED BUILDING	▬
PROPOSED BUILDING OVERHANG	- - - -
PROPOSED SPOT SHOT	100.50 X
PROPOSED FLOW ARROW	⇒
PROPOSED BIT. CONC.	.....
PROPOSED LANDSCAPING	.....
PROPOSED CEM. CONC.	.....
PROPOSED PERV. PAVER	.....
PROPOSED WALL	▬

- GENERAL NOTES:
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
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  3. THE CONTRACTOR SHALL EXCAVATE TEST PITS PRIOR TO COMMENCING WORK TO TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITY SERVICES.
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  5. ANY CHANGE IN THE FIELD CONDITIONS SHOULD BE REPORTED TO THE ENGINEER TO ENSURE THAT ANY MODIFICATIONS TO THE ORIGINAL DESIGN CONFORM TO STANDARD ENGINEERING AND CONSTRUCTION PRACTICES AND ADEQUATE TO SERVE THE PROJECT'S NEEDS AND COMPLY WITH APPLICABLE STANDARDS AND REGULATIONS.
  6. REFER TO ARCHITECTURAL PLANS FOR PROPOSED PARKING LAYOUT.
  7. SIZE, LOCATION, AND DEPTH OF PROPOSED SUBSURFACE INFILTRATION FACILITY IS SHOWN FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO DIG A TEST PIT TO DETERMINE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION. THE AREA DESIGNATED FOR SUBSURFACE INFILTRATION SHOWN ON THIS PLAN ASSUMES THE VOLUME OF A 10-YEAR STORM EVENT FOR THE PROPOSED ROOF AREA ONLY. THIS AREA IS BASED ON THE VOLUME PROVIDED BY CULTEC R-150XLHD CHAMBERS AND ASSUMES SEPARATION TO THE ESTIMATE SEASONAL HIGH WATER TABLE IS SUFFICIENT. ALL CONDITIONS WILL NEED TO BE VERIFIED PRIOR TO FINAL DESIGN OF SYSTEM.



Rear-Load Garbage Truck

feet

- Width : 8.00
- Track : 8.00
- Lock to Lock Time : 6.0
- Steering Angle : 27.4

PREPARED BY:

PROJECT:

Lincoln Architects LLC  
1 Mount Vernon Street, Suite 203  
Winchester, Massachusetts 01890

DWG. NO.  
1 of 1

DATE: June 18, 2020

DWG FILE NAME: 20-59805.dwg

DRAWING TITLE:  
AutoTURN: Trash Removal

PROJECT # 20-59805

SCALE: AS NOTED

10f1

DATE: June 18, 2020

DWG FILE NAME: 20-59805.dwg

AutoTURN: Trash Removal

DESIGN BY: Eric Bradanes, P.E.

Professional Engineer for  
Engineering Alliance, Inc.

Checked By: Richard A. Salvo, P.E.

Professional Engineer for  
Engineering Alliance, Inc.

Engineering Alliance, Inc.  
Civil Engineering & Land Planning Consultants  
194 Central Street  
Saugus, MA 01906  
Tel: (603) 231-1349  
Fax: (603) 610-7100

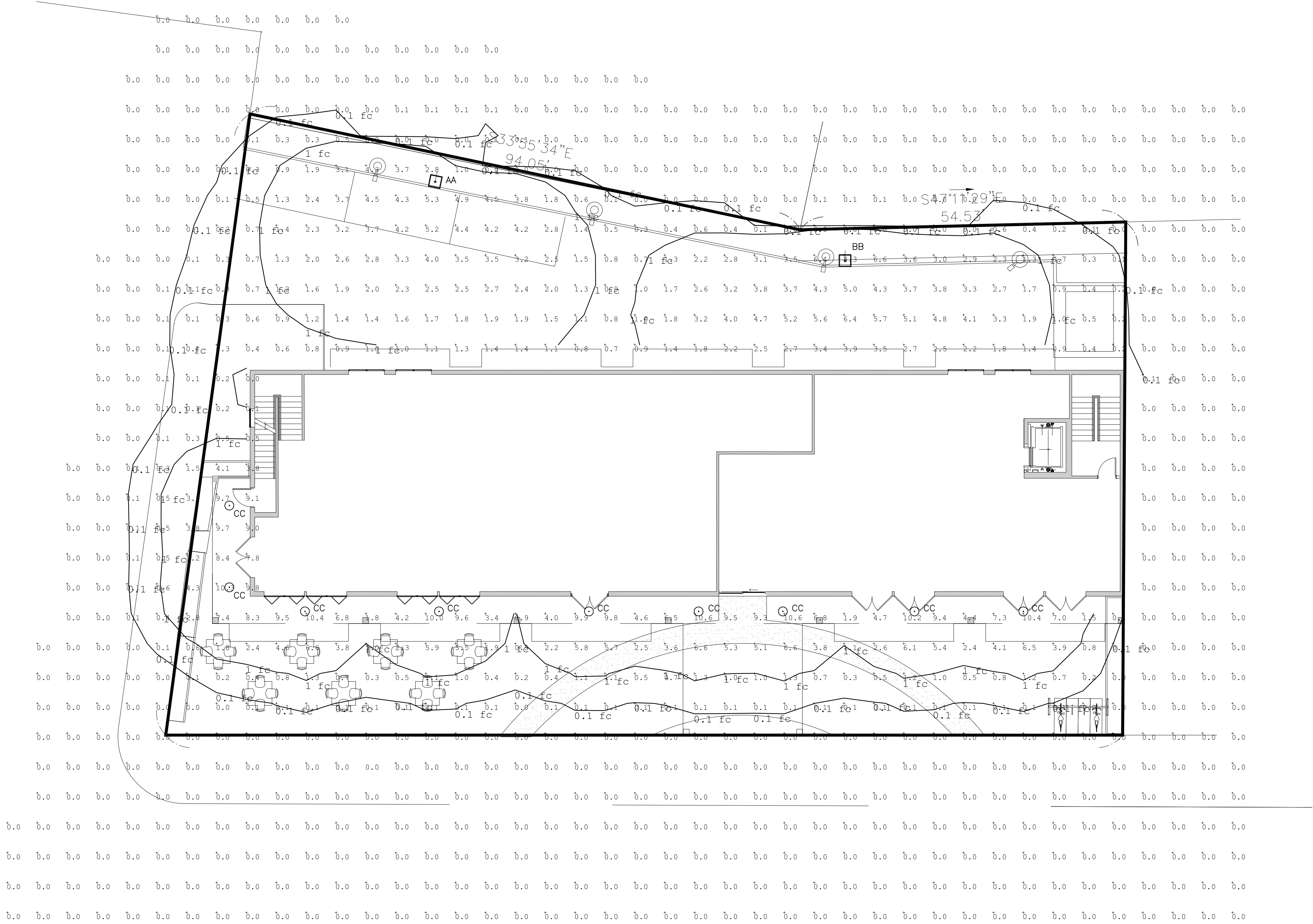
DESCRIPTION OF REVISION



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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA



SITE PLAN LIGHTING- PHOTOMETRIC PLAN  
Scale: 3/32" = 1'-0"

LIGHTING FIXTURE SCHEDULE						
TYPE	MANUFACTURER	CATALOGUE #	LAMPING			REMARKS
			TYPE	WATTAGE	QUANTITY	
AA	MCGRAW EDISON	GLEON-AF-01-LED-E1-SL4-HSS	LED	59W		MOUNTED ON 10'-0" POLE W/ 2'-0" CONCRETE BASE
BB	MCGRAW EDISON	GLEON-AF-01-LED-E1-SL4-HSS	LED	59W		MOUNTED ON 10'-0" POLE W/ 2'-0" CONCRETE BASE
CC	HALO	HC420D010-HM412835-41MDC	LED	20		RECESSED CANOPY DOWNLIGHT

SITE LIGHTING  
PHOTOMETRIC PLAN

Project Number  
2017.032  
Drawing Scale  
3/32"=1'-0"  
Drawn By  
GMc  
Checked By  
GMc  
Date Issued  
06/23/20

ES.1





CURRENT SUBMISSION



PREVIOUS SUBMISSION

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Revisions


**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**RENDERING**  
**STREET VIEW**

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMc

Checked By  
GMc

Date Issued  
06/23/20

**A0.1**





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## Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

## RENDERING BIRDS EYE VIEW

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMC

Checked By  
GMc

Date Issued  
06/23/20

## A0.2





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Revisions


PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING  
STREET VIEW #1

Project Number  
2017.032

Drawing Scale  
N.T.S.

Drawn By  
GMc

Checked By  
GMc

Date Issued  
06/23/20

A0.3



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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING  
STREET VIEW #2

Project Number  
2017.032

Drawing Scale  
N.T.S

Drawn By  
GMc

Checked By  
GMc

Date Issued  
06/23/20

A0.4







One Mount Vernon Street, Suite 203  
Winchester Massachusetts 01890  
T 781.721.7721  
F 781.721.0005  
www.lincolnarch.com

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Revisions


PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

RENDERING  
STREET VIEW #3  
CLARK ST

Project Number  
2017.032

Drawing Scale  
N.T.S

Drawn By  
GMc

Checked By  
GMc

Date Issued  
06/23/20

A0.5



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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

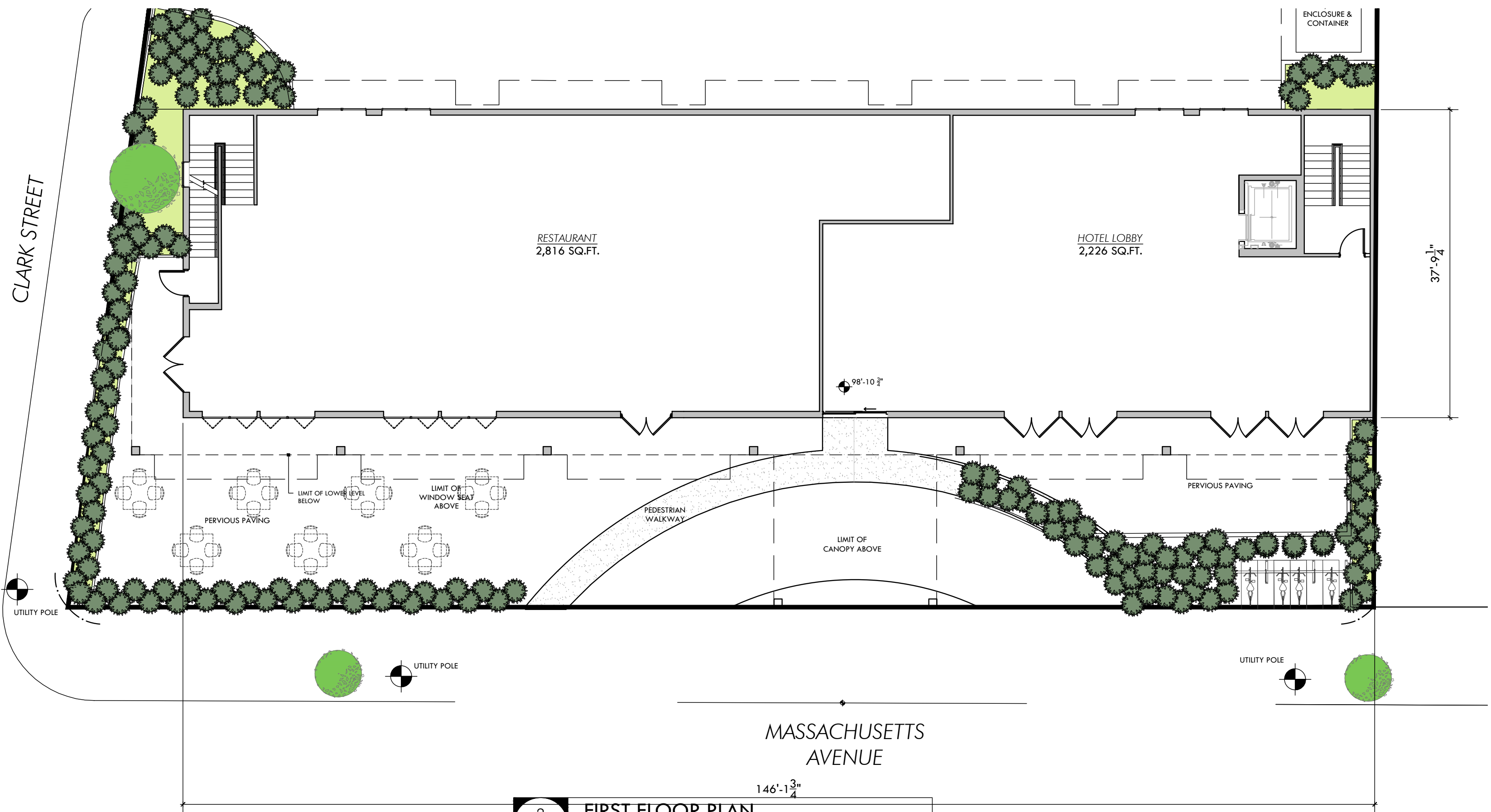
LOWER LEVEL  
FIRST FLOOR  
FLOOR PLANS

Project Number  
2017.032  
Drawing Scale  
3/32"=1'-0"  
Drawn By  
GMc  
Checked By  
GMc  
Date Issued  
06/23/20

A1.1

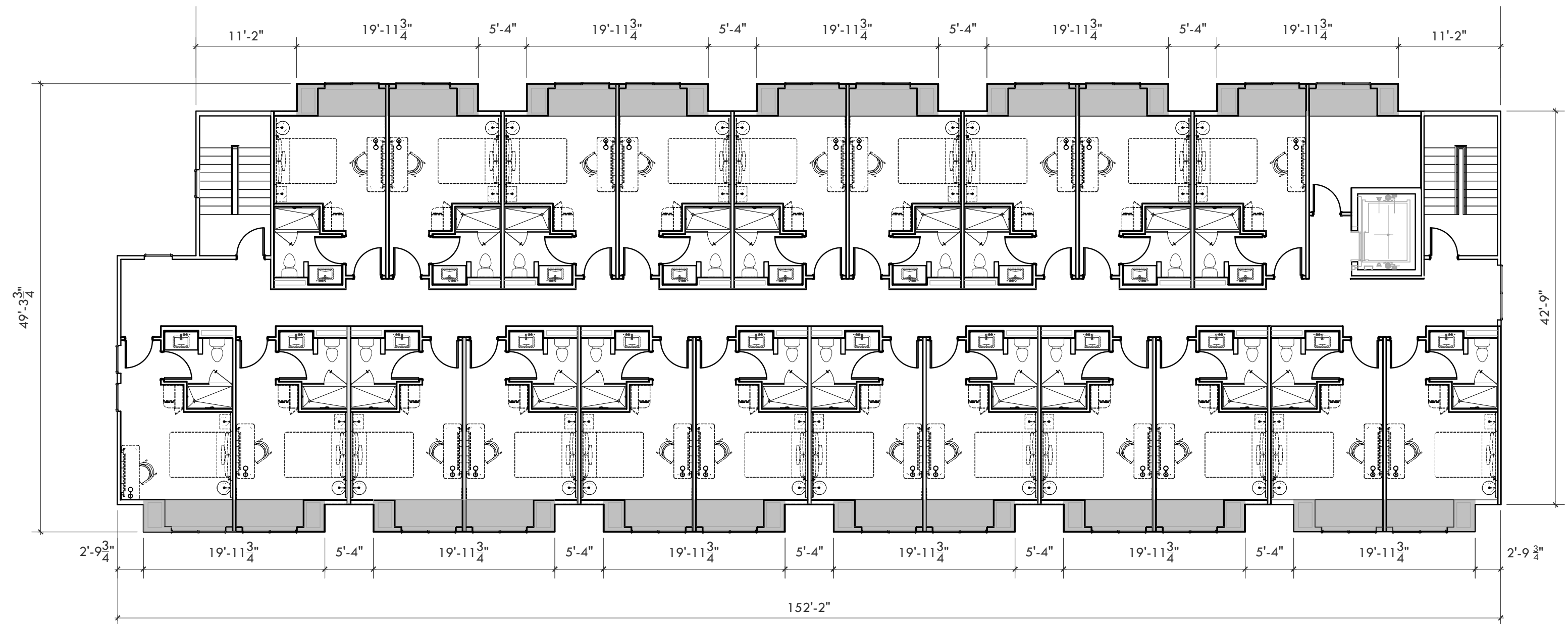


1 LOWER LEVEL FLOOR PLAN  
A1.1 SCALE: 3/32"=1'-0"



2 FIRST FLOOR PLAN  
A1.1 SCALE: 3/32"=1'-0"



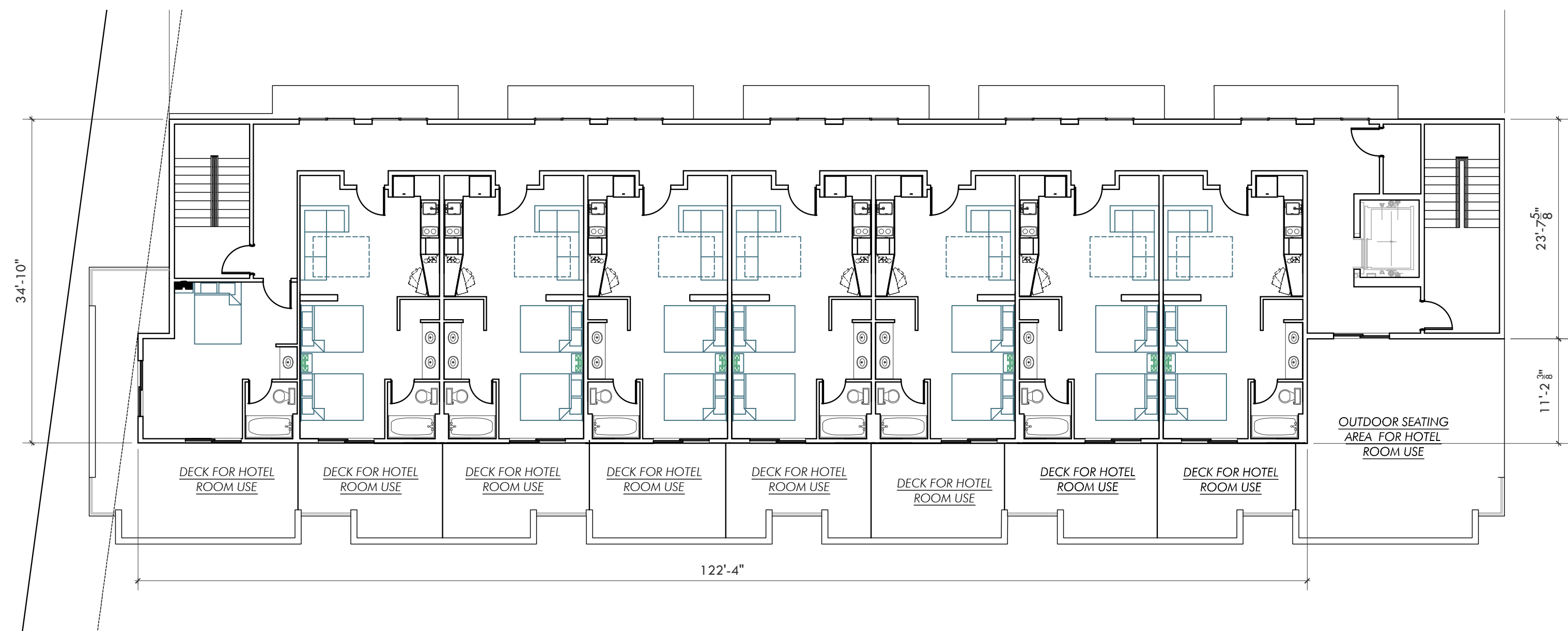


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SECOND & THIRD FLOOR PLAN

A1.2

SCALE: 3/32"=1'-0"



2

FOURTH FLOOR PLAN

A1.2

SCALE: 3/32"=1'-0"

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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SECOND & THIRD FLOOR PLAN  
FOURTH FLOOR PLAN

Project Number

2017.032

Drawing Scale

3/32"=1'-0"

Drawn By

GMc

Checked By

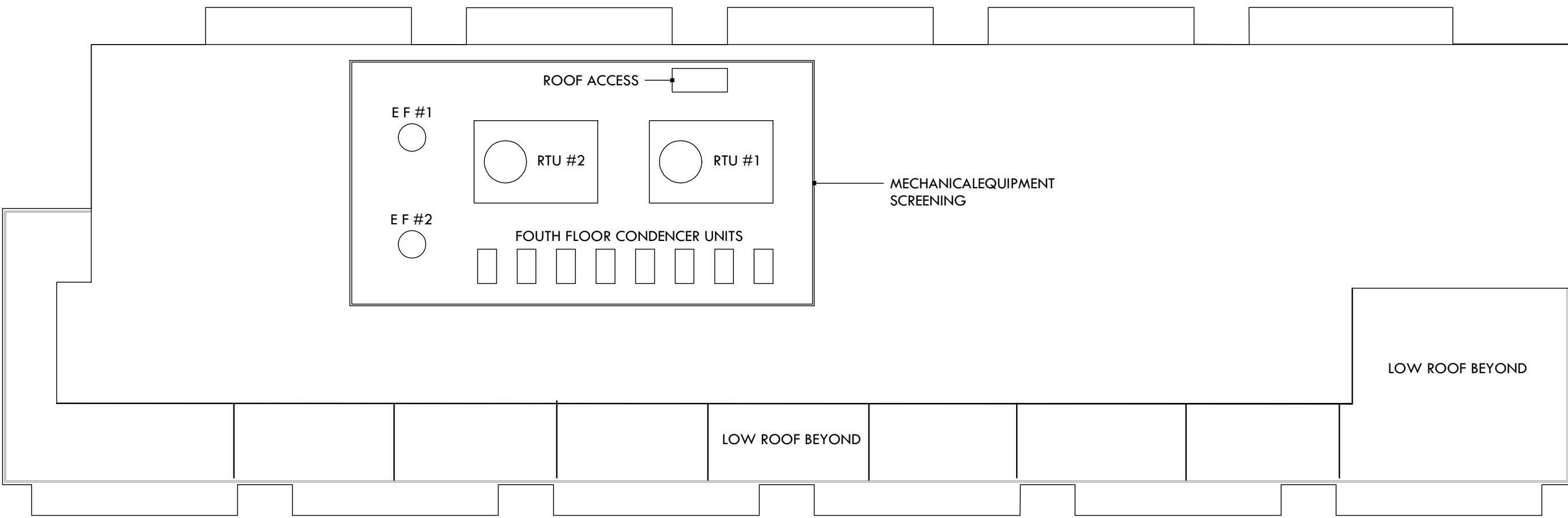
GMc

Date Issued

06/23/20

A1.2



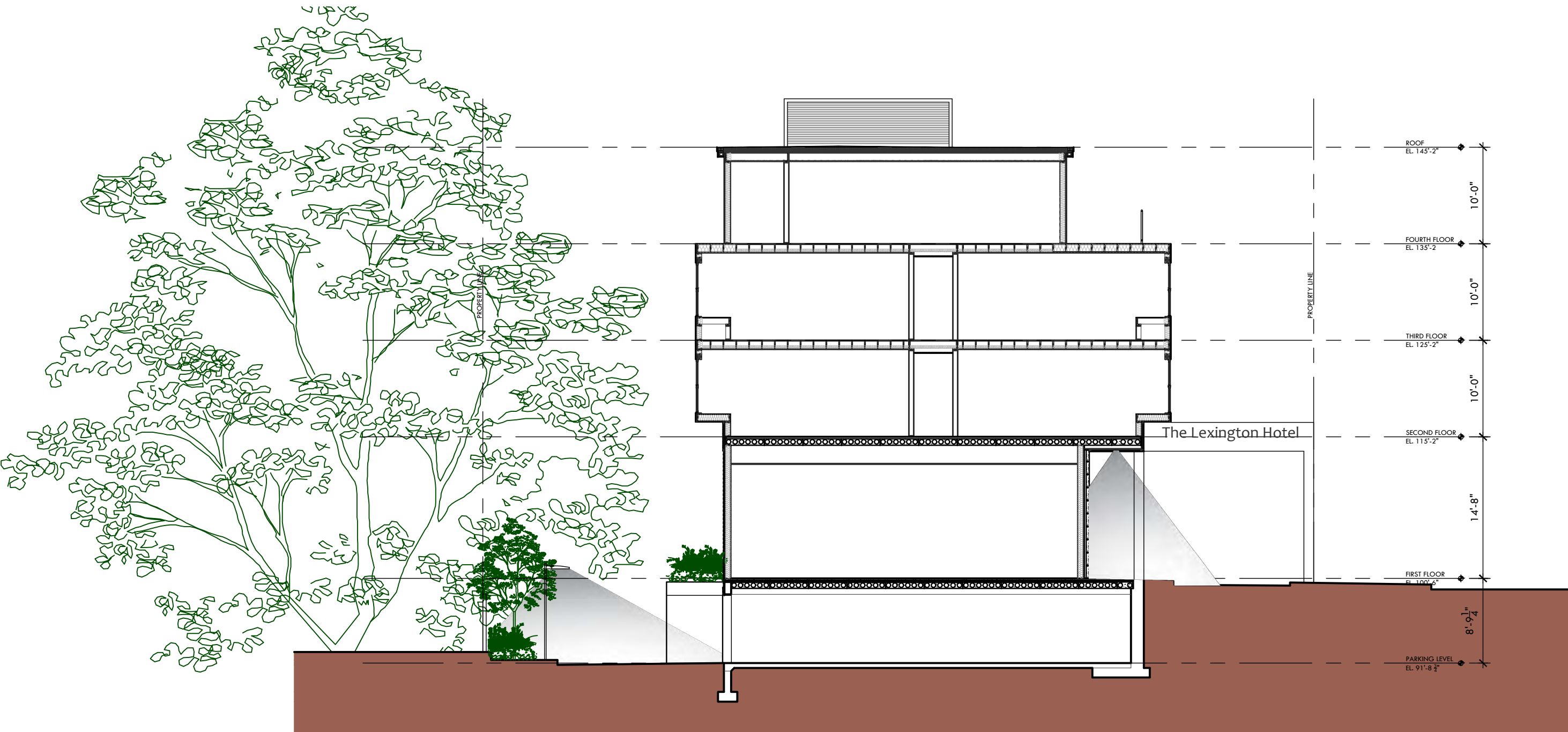


1

A3.1

ROOF PLAN

SCALE: 3/32"=1'-0"



2

A3.1

BUILDING SECTION

SCALE: 3/32"=1'-0"

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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

ROOF PLAN  
BUILDING SECTION

Project Number  
2017.032

Drawing Scale  
3/32"=1'-0"

Drawn By  
GMc

Checked By  
GMc

Date Issued  
06/23/20

A3.1



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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

BUILDING ELEVATIONS

Project Number  
2017.032

Drawing Scale  
1/8"=1'-0"

Drawn By  
GMc

Checked By  
GMc

Date Issued  
06/23/20

A4.1



1 BUILDING ELEVATIONS-FRONT  
A4.1 SCALE: 1/8"=1'-0"



2 BUILDING ELEVATIONS- REAR  
A4.1 SCALE: 1/8"=1'-0"





1	BUILDING ELEVATIONS-SIDE
A4.2	SCALE: 1/8"=1'-0"

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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

BUILDING ELEVATIONS

Project Number
2017.032
Drawing Scale
1/8"=1'-0"
Drawn By
GMc
Checked By
GMc
Date Issued
06/23/20

A4.2





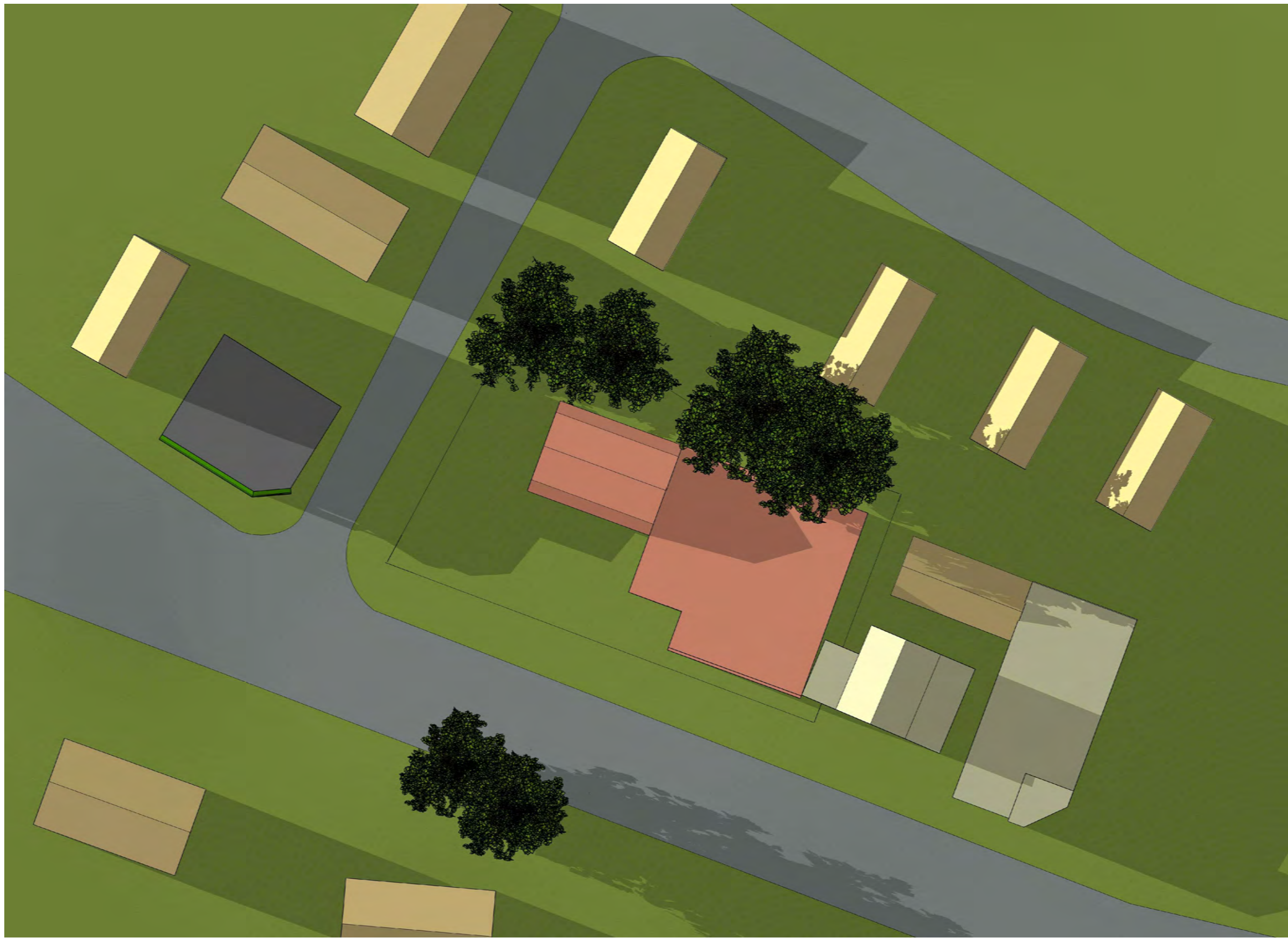
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12:00 PM



3:00 PM



6:00 PM

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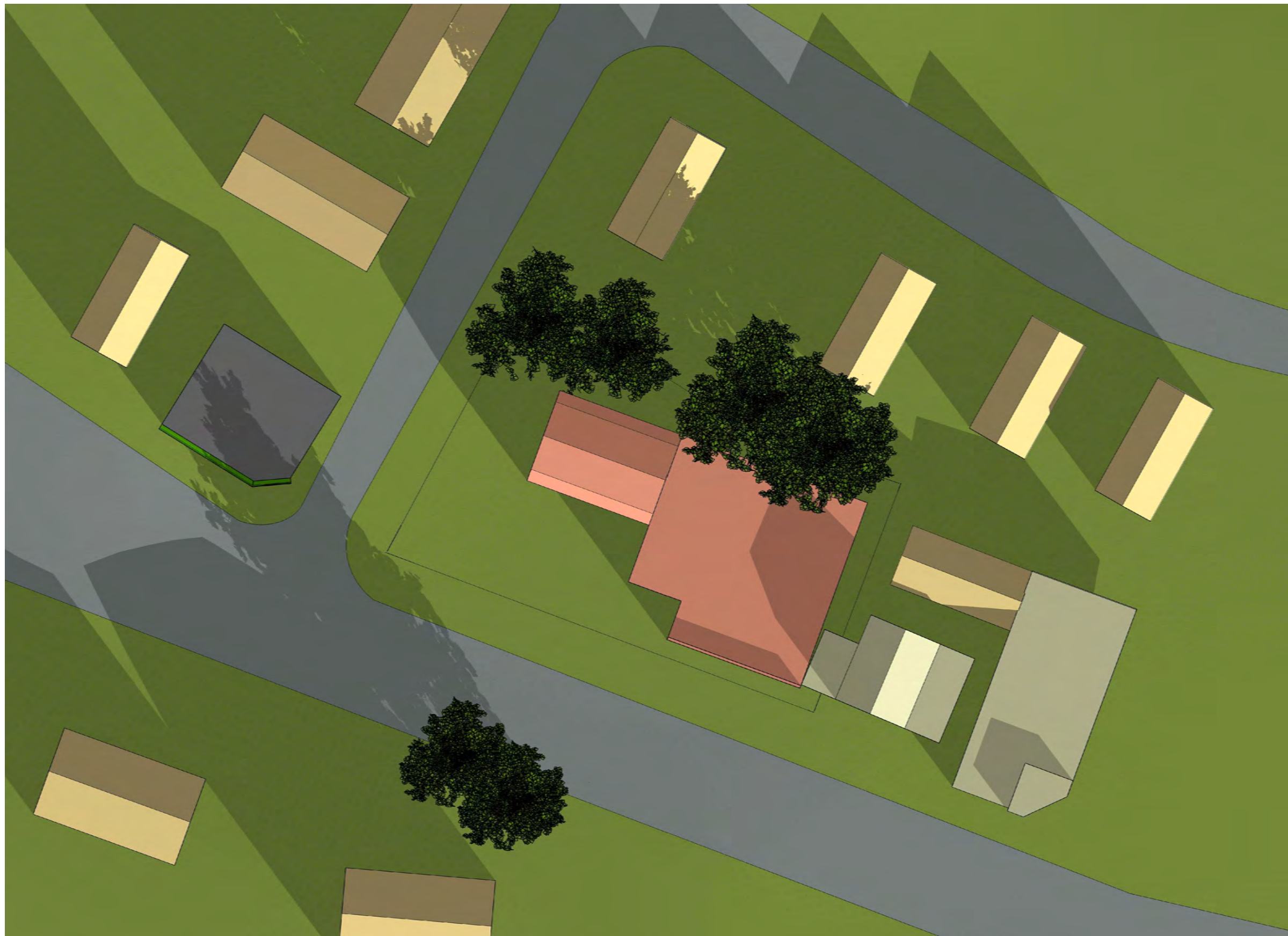
Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
SUMMER SOLSTICE

Project Number 2017.032
Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 12/12/19





9:00 AM



12:00 PM



3:00 PM



6:00 PM

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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
WINTER SOLSTICE

Project Number  
2017.032  
Drawing Scale  
N.T.S.  
Drawn By  
GMe  
Checked By  
GMe  
Date Issued  
12/12/19





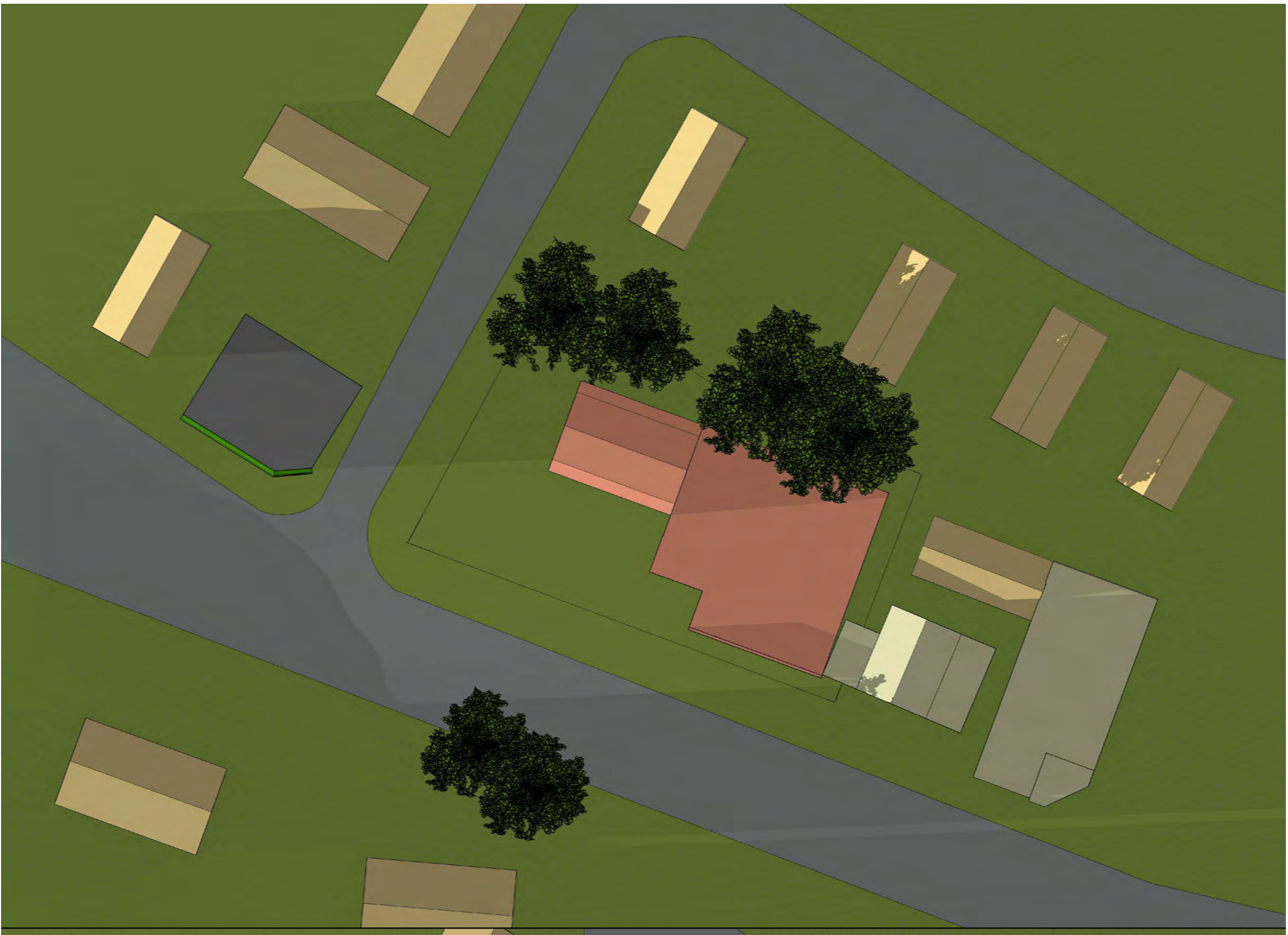
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12:00 PM



3:00 PM



6:00 PM

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Revisions

PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
AUTUMN EQUINOX

Project Number 2017.032
Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 12/12/19





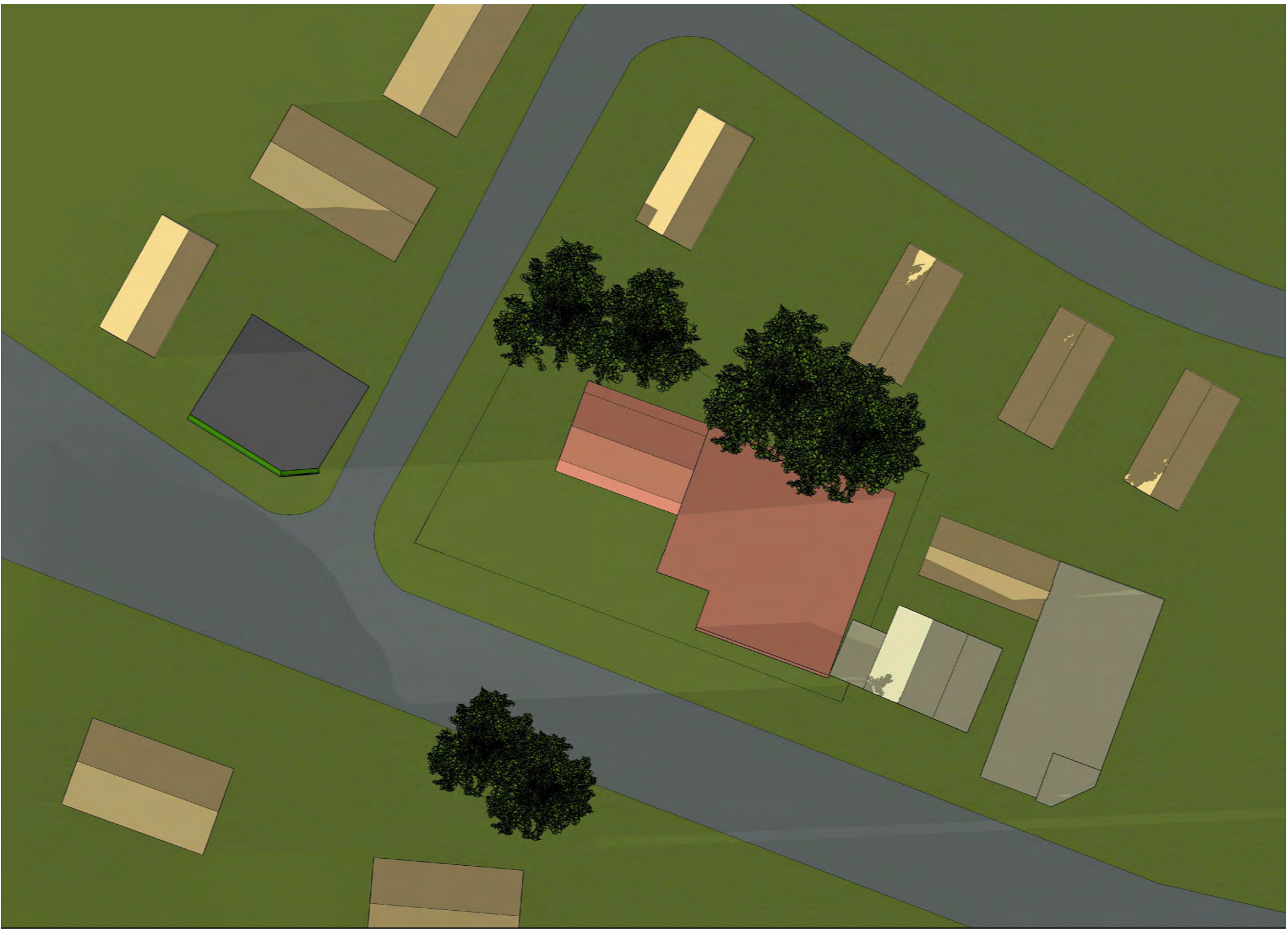
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12:00 PM



3:00 PM



6:00 PM

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Revisions

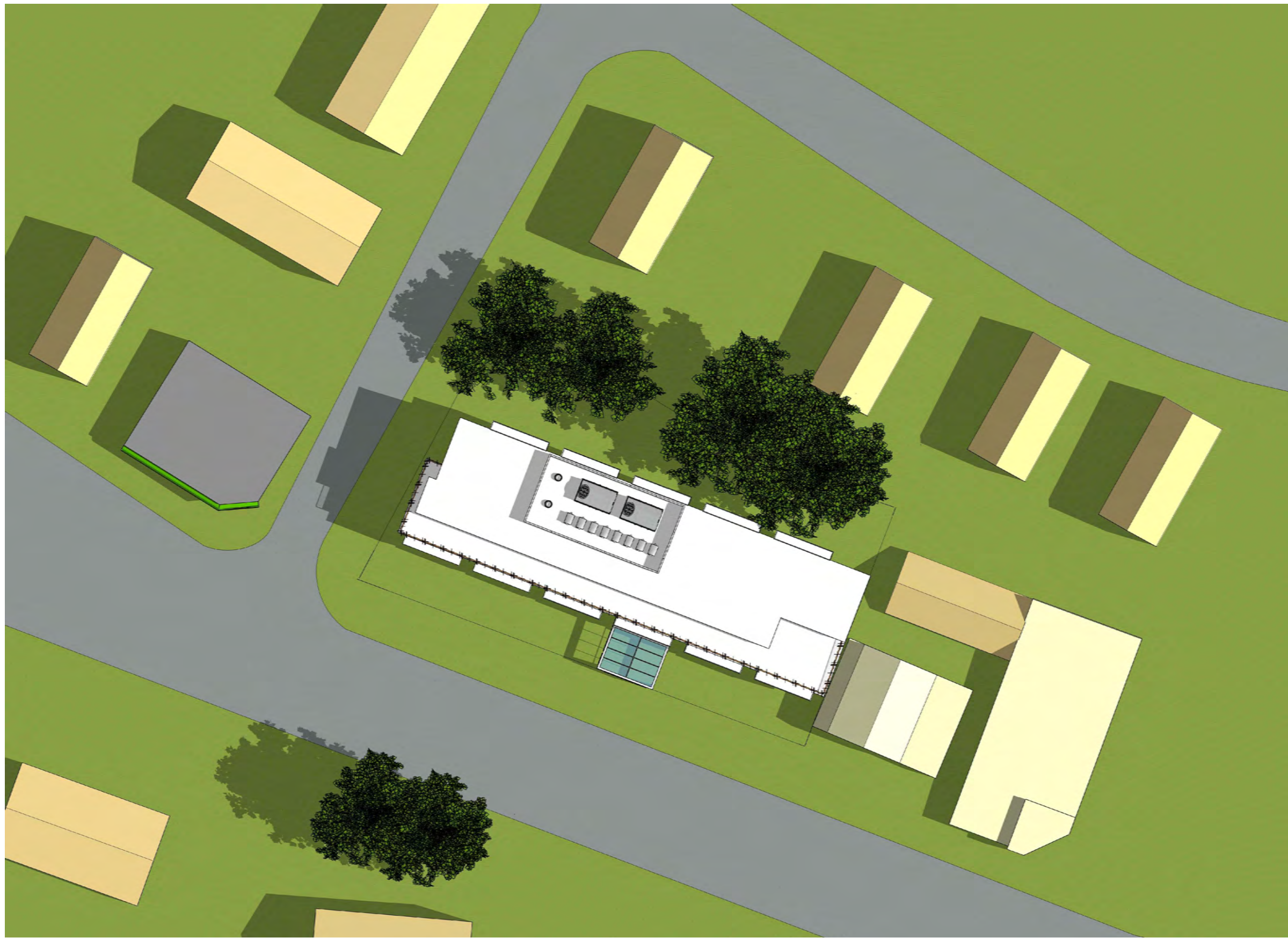
PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
EXISTING CONDITIONS  
SPRING EQUINOX

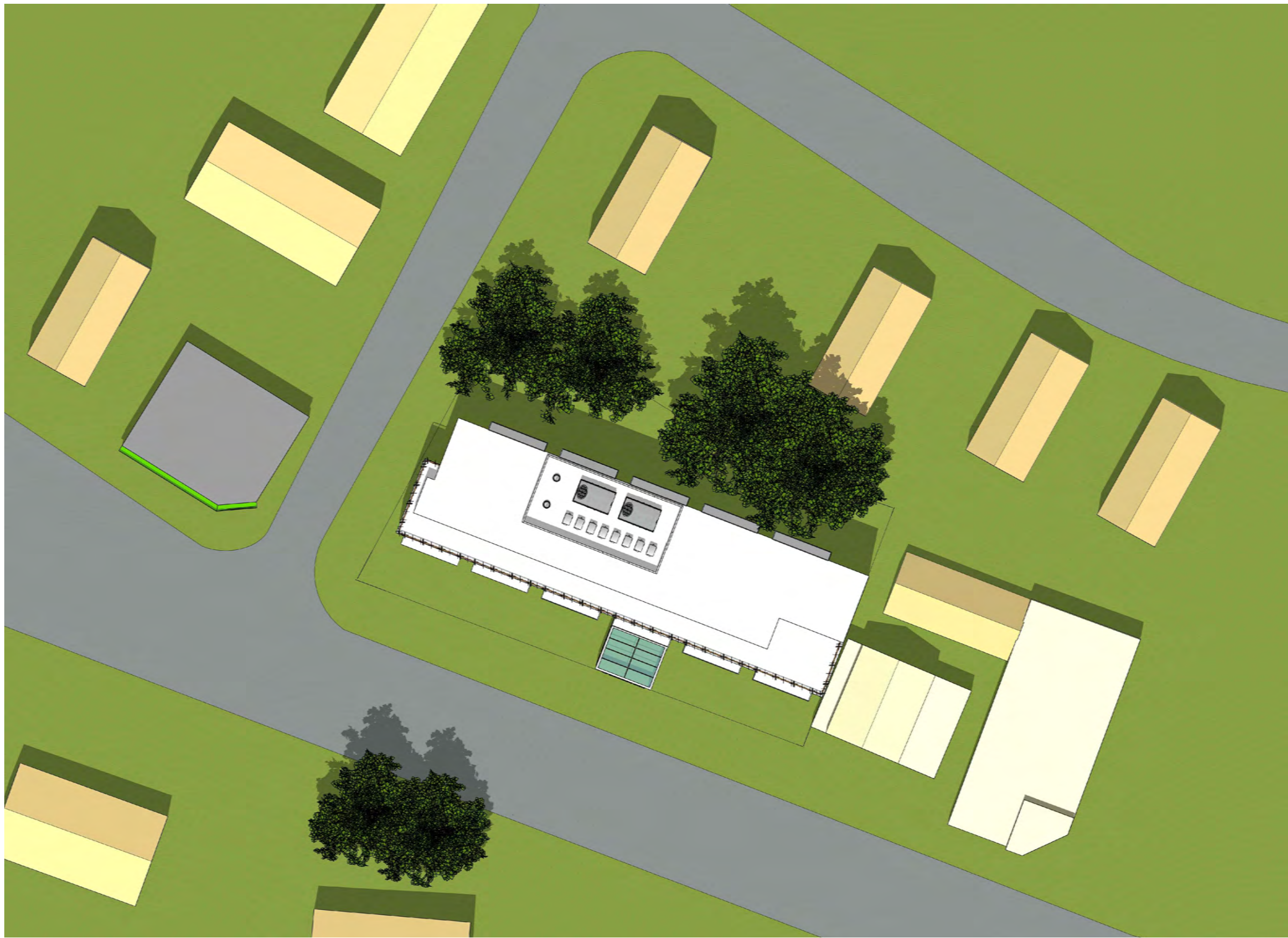
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Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 12/12/19

A5.4

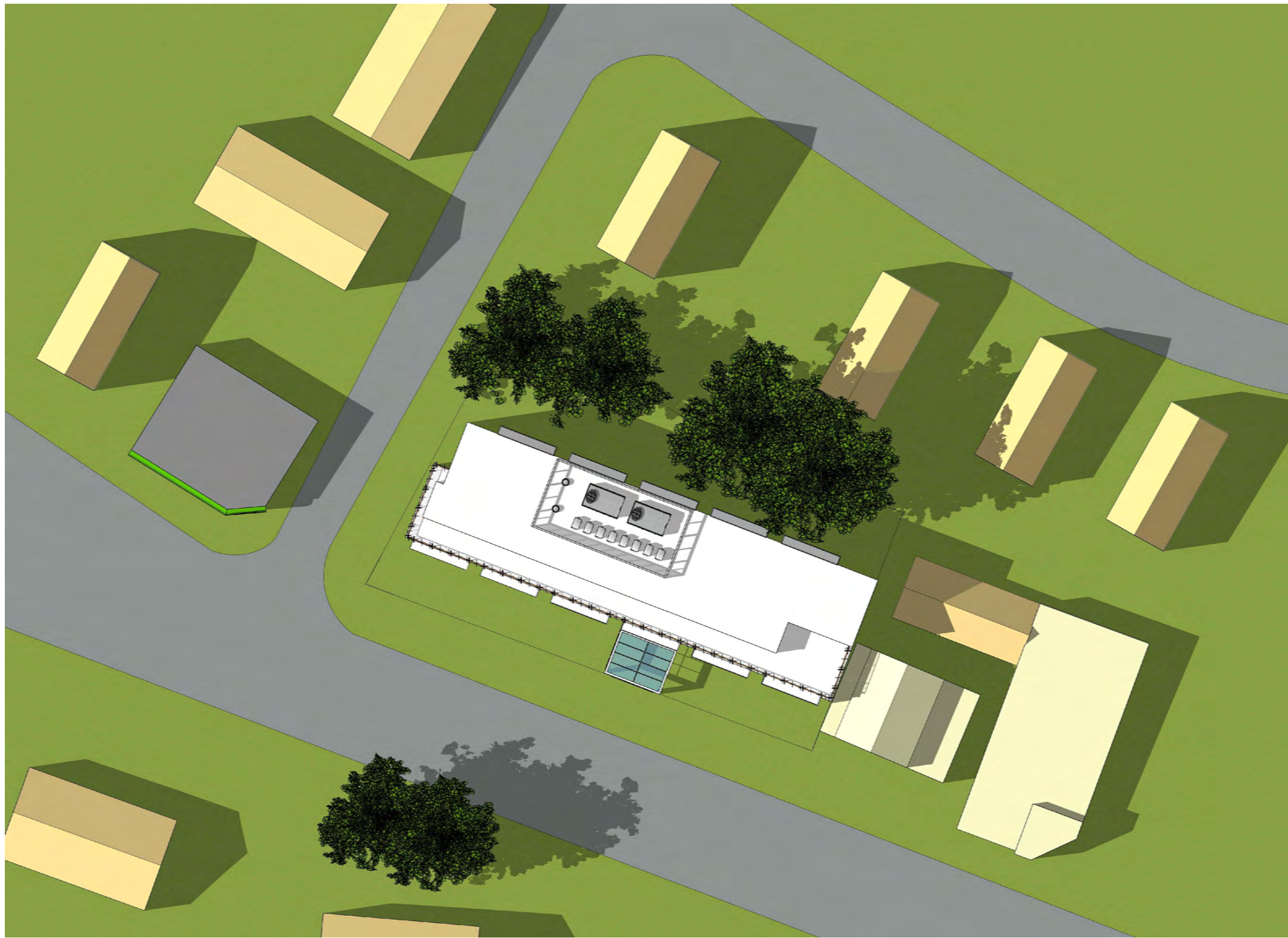




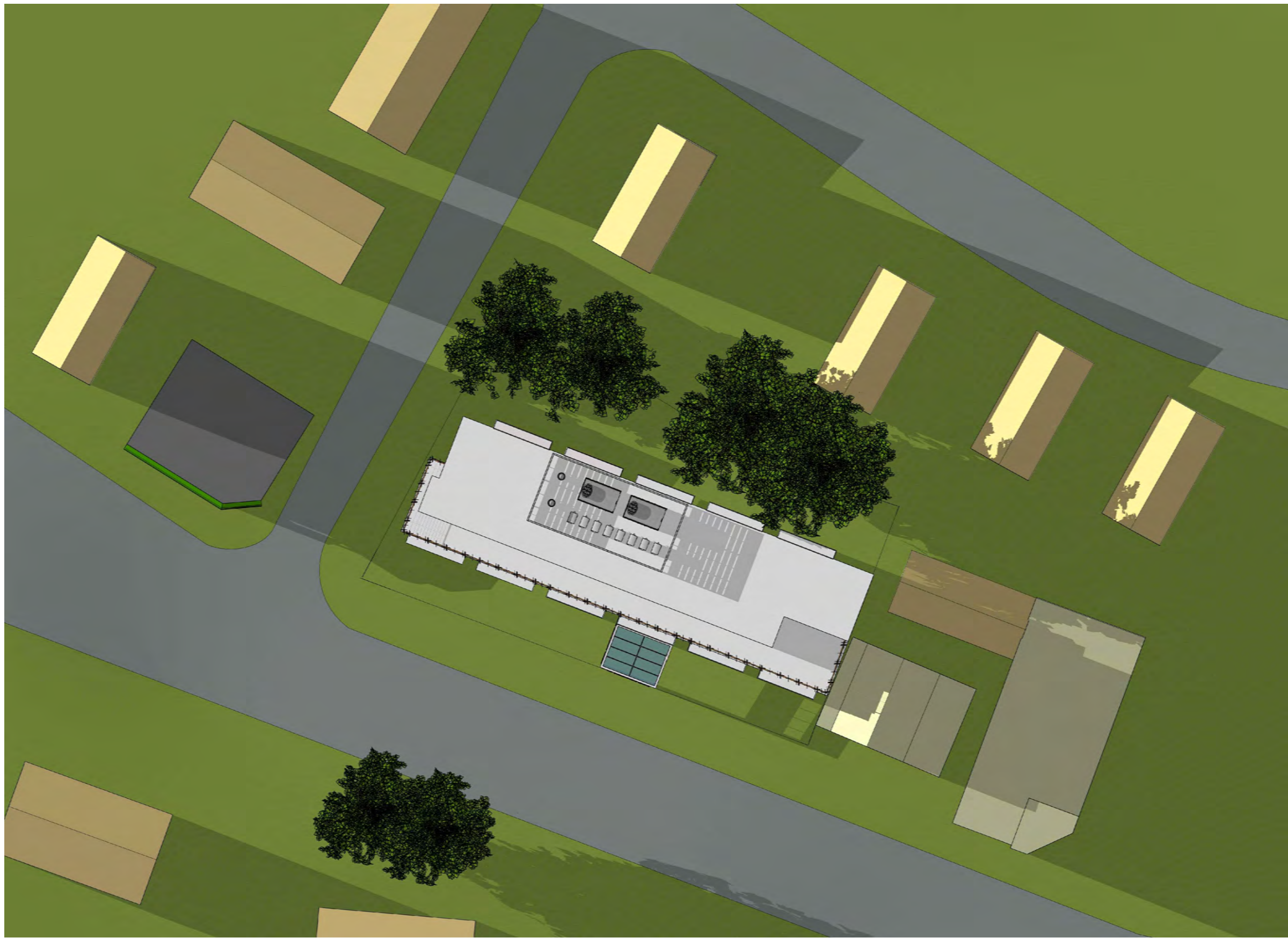
9:00 AM



12:00 PM



3:00 PM



6:00 PM

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Federal laws subject to the prescribed penalties.

Revisions

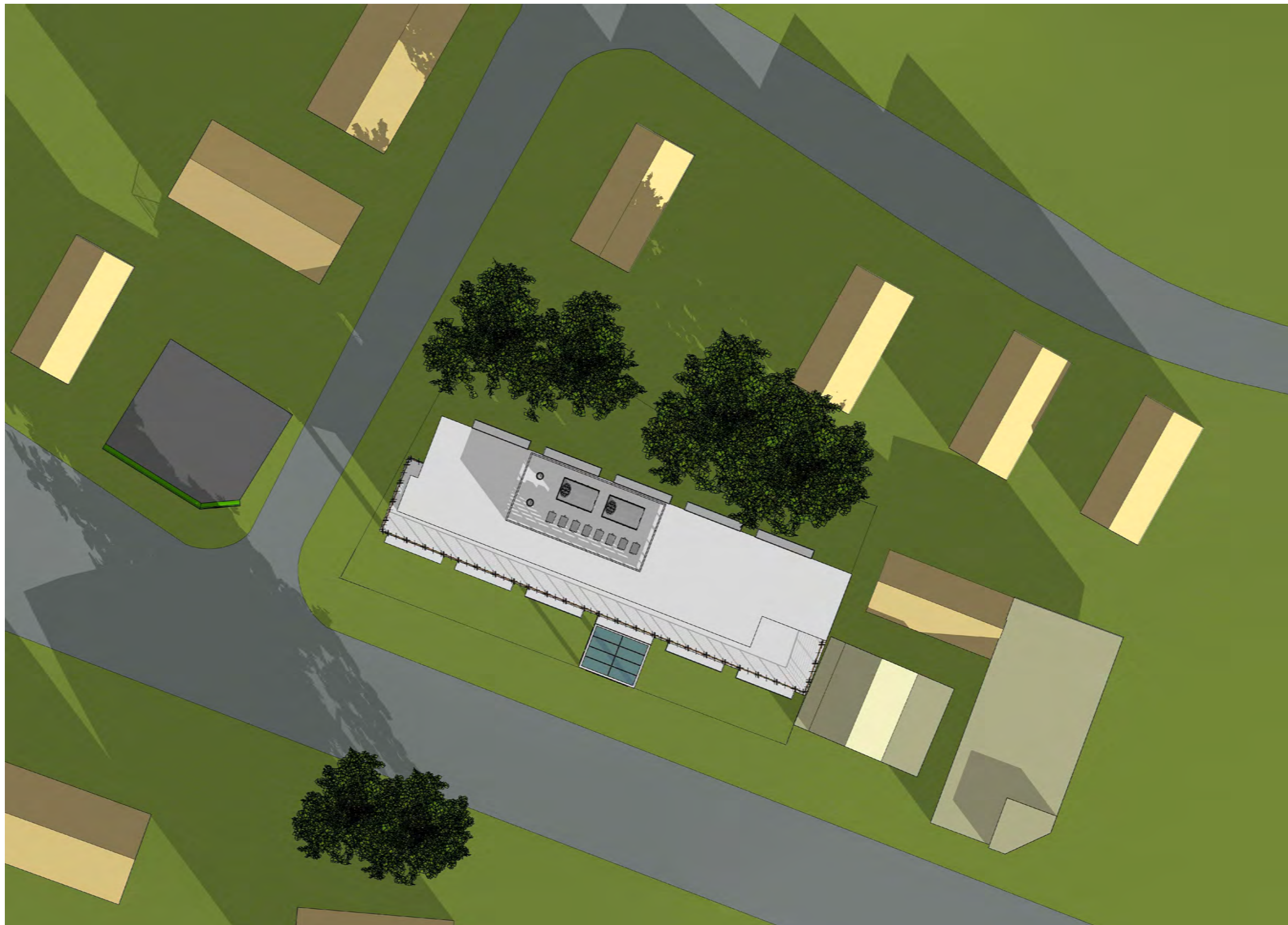

**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**SHADOW STUDY**  
**PROPOSED BUILDING**  
**SUMMER SOLSTICE**

Project Number  
2017.032  
Drawing Scale  
N.T.S.  
Drawn By  
GMe  
Checked By  
GMe  
Date Issued  
06/23/20

A6.1

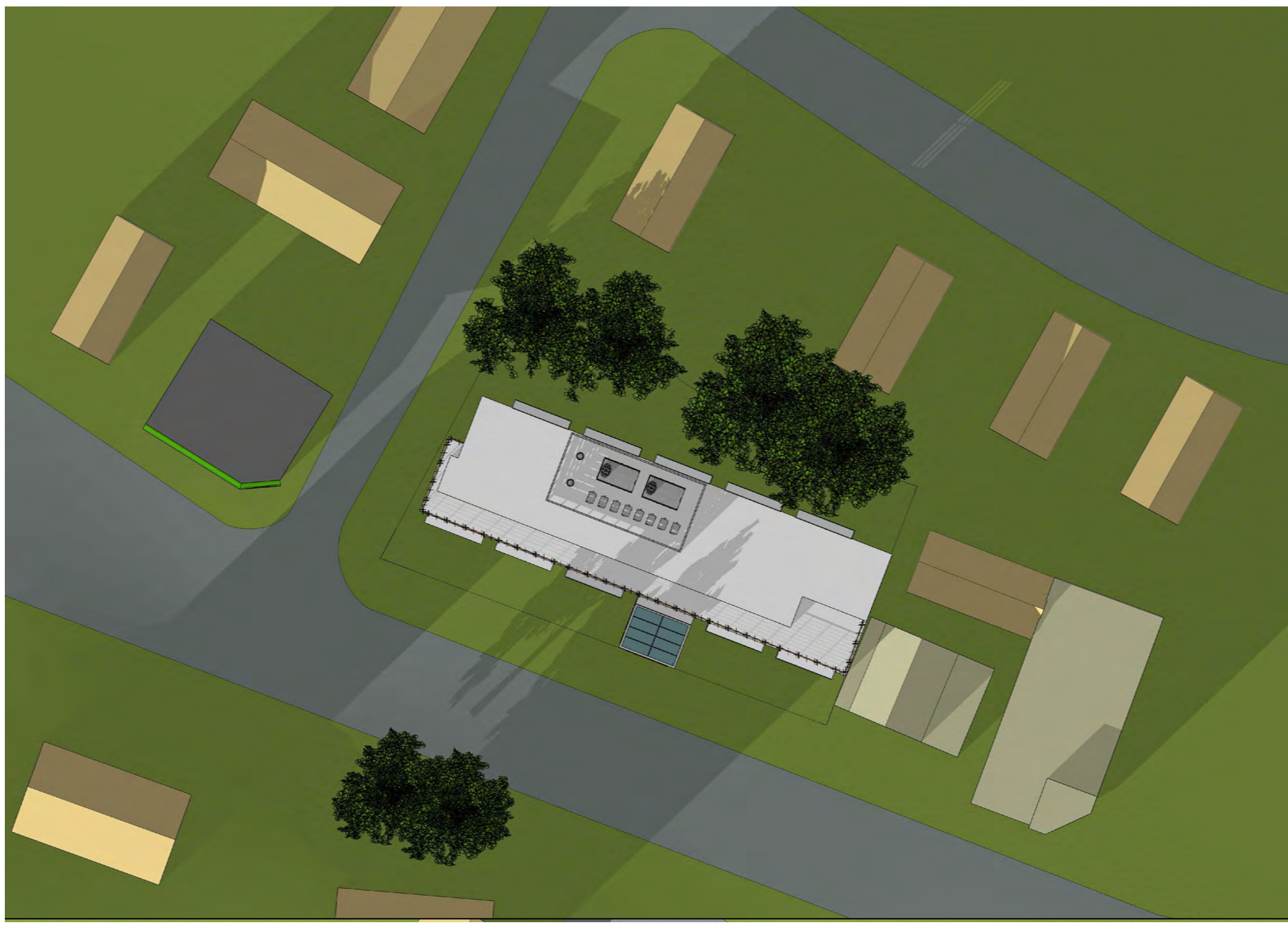




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Consultants

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Revisions


**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**SHADOW STUDY**  
**PROPOSED BUILDING**  
**WINTER SOLSTICE**

Project Number  
2017.032

Drawing Scale  
N.T.S.

Drawn By  
GMe

Checked By  
GMe

Date Issued  
06/23/20

**A6.2**





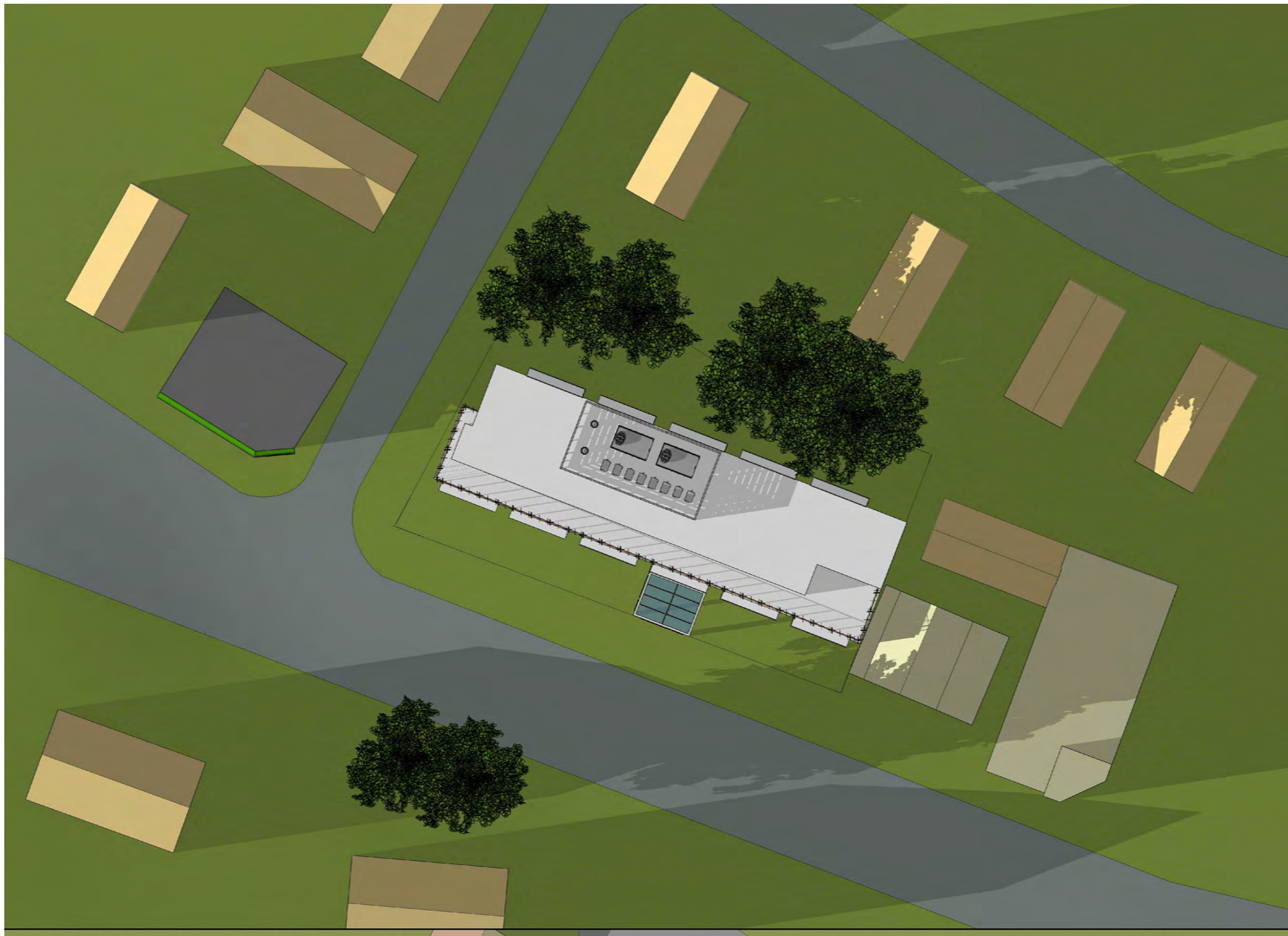
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Revisions

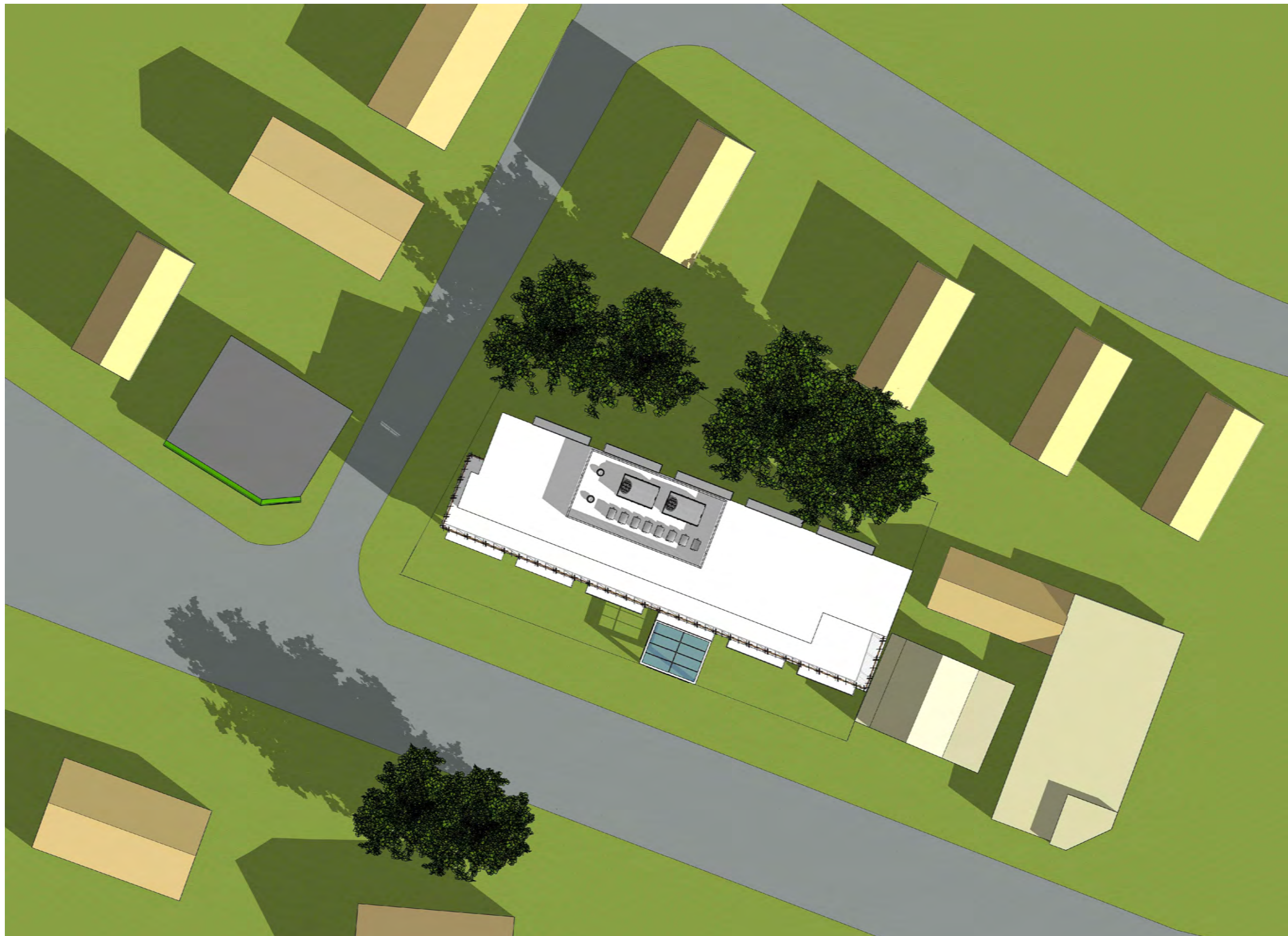
PROPOSED HOTEL COMPLEX  
1211 Massachusetts Avenue  
Arlington, MA

SHADOW STUDY  
PROPOSED BUILDING  
AUTUMN EQUINOX

Project Number  
2017.032  
Drawing Scale  
N.T.S.  
Drawn By  
GMe  
Checked By  
GMe  
Date Issued  
06/23/20

A6.3

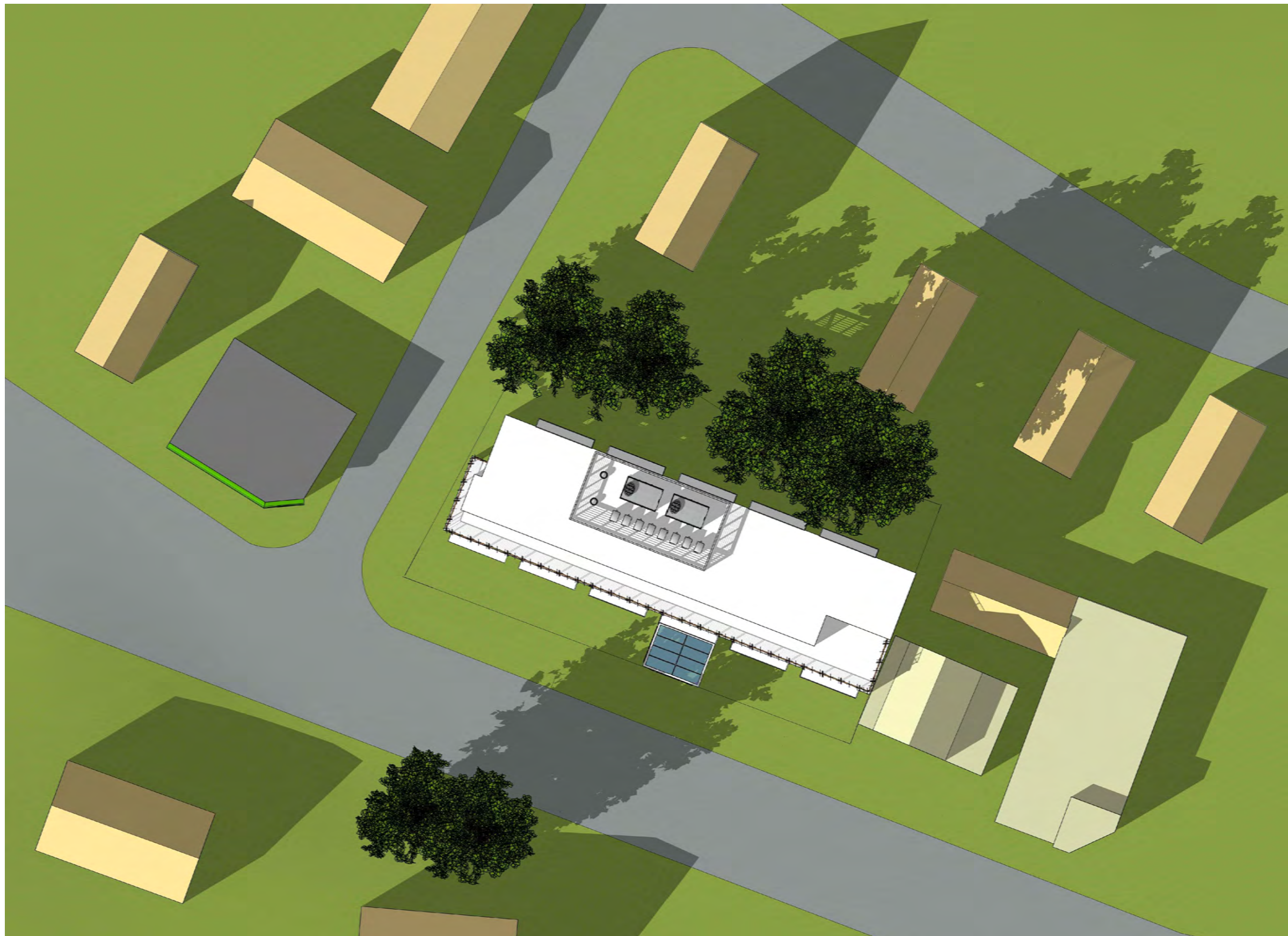




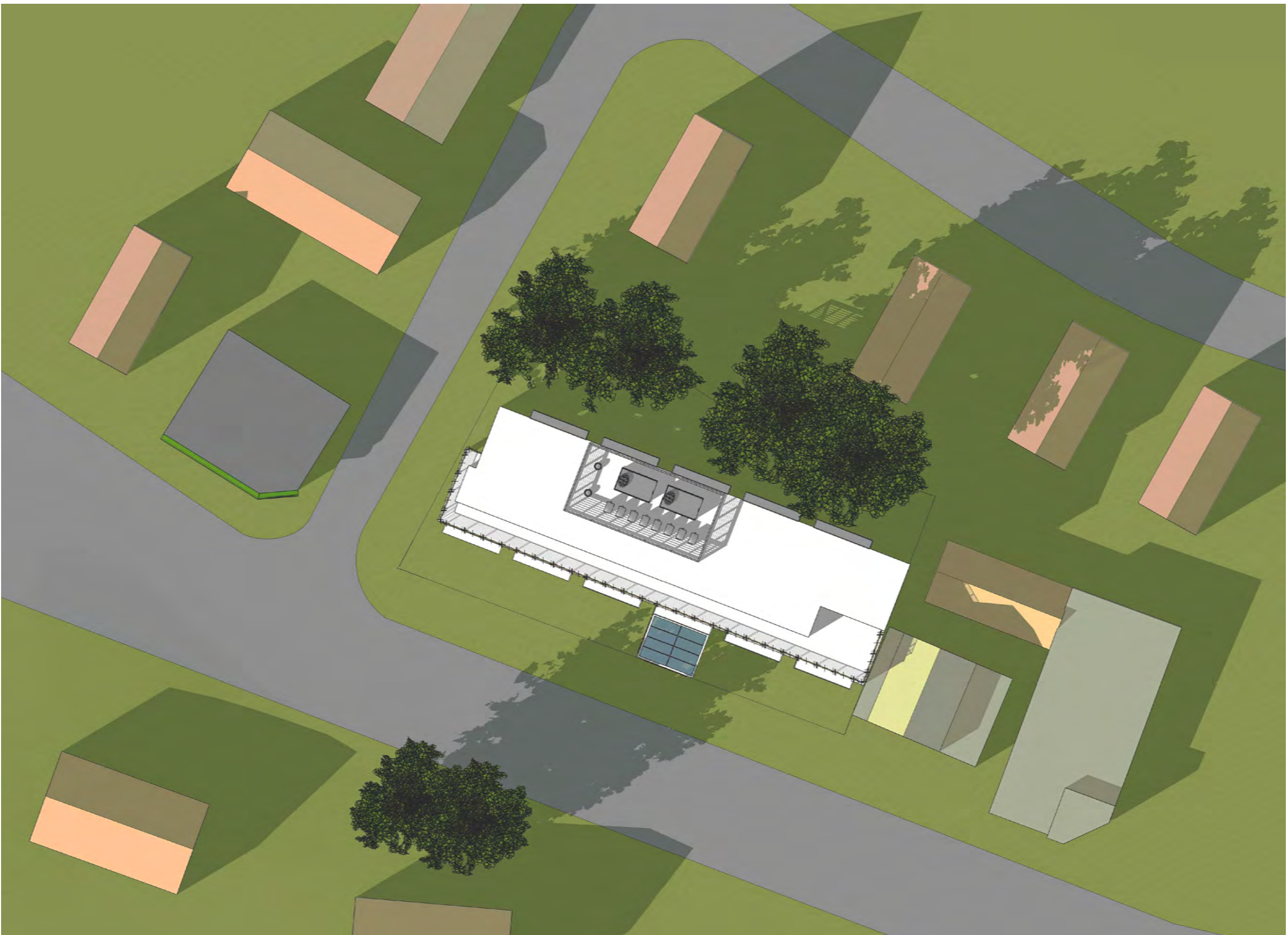
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Consultants

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Revisions


**PROPOSED HOTEL COMPLEX**  
1211 Massachusetts Avenue  
Arlington, MA

**SHADOW STUDY**  
**PROPOSED BUILDING**  
**SPRING EQUINOX**

Project Number  
2017.032  
Drawing Scale  
N.T.S.  
Drawn By  
GMe  
Checked By  
GMe  
Date Issued  
06/23/20

**A6.4**



**KRATTENMAKER O'CONNOR & INGBER P.C.**

ATTORNEYS AT LAW

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BOSTON, MASSACHUSETTS 02109  
TELEPHONE (617) 523-1010  
FAX (617) 523-1009

CHARLES G. KRATTENMAKER, JR.  
MARY WINSTANLEY O'CONNOR  
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

June 24, 2020

**VIA EMAIL**

Jennifer Raitt, Director  
Department of Planning and Community  
Development  
Town of Arlington  
730 Massachusetts Avenue  
Arlington, MA 02476

Re: 1207-1211 Massachusetts Avenue, Arlington, MA (collectively  
referred to as the "Property") / Docket No. 3602

Dear Director Raitt:

Further to the directives of the Arlington Redevelopment Board (hereinafter referred to as the "Board"), I am providing the Board with the additional information requested and a response to the comments made by members of the Board and certain members of the public:

- Use of the Property

The Property is proposed to be a Mixed-Use project as required by the request for proposal issued by the Town for the property at 1207 Massachusetts Avenue. This proposal is for a restaurant and hotel use. The Bylaw defines "Mixed-Use" as "a combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication, residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live/work environment." Arlington Zoning Bylaw, Article 2, Section 2 (hereinafter referred to as the "Bylaw"). The use of the property is relevant since the Bylaw provides for certain incentives and bonuses for certain uses.

It has been suggested by a member of the public that the bonus provisions, so-called, for floor area ratio set out in Article 5, Section 5.3.6, do not apply because the combined lots are less than 20,000 square feet and the principal use is "residential". In support of this position, this individual cites Article 5, Section 5.5.3 and the heading in the use regulations section. The headings in the Bylaw are not dispositive on this issue and such a position is incorrect as a matter of fact and law. Indeed, the parking and bicycle space requirements for hotels/motels are listed under the heading of "Business or Industrial Use" in Article 6, Sections 6.1.4 and 6.1.12.

Article 2, Section 2, specifically states, "[i]n this Bylaw and unless the context of usage clearly indicates another meaning, the following terms shall have the meanings indicated herein."



Jennifer Raitt, Director  
June 24, 2020  
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Where there are definitions in a local bylaw, the Board must rely on the definitions in making its determination. This statement in Article 2 is in accordance with ordinary principles of statutory construction. *Deadrick v. Zoning Board of Appeals of Chatham*, 85 Mass. App. Ct. 539, 545 (2014).

The Bylaw does not define “residential use” but defines “dwelling”. “Dwelling” is defined in the Bylaw as follows:

A privately or publicly owned permanent structure, whether owned by one or more persons or in condominium, or any other legal form which is occupied in whole or part as the home residence or sleeping place of one or more persons. The terms “efficiency,” “single-family,” “two-family,” “duplex,” “three-family” or “multi-family” dwelling, or single-room occupancy building, shall not include hotel/motel, bed and breakfast, hospital, membership club, mixed-use, or mobile home. (emphasis supplied).

Article 2, Section 2 specifically excludes in its definition of “dwelling” “hotel/motel” use and “mixed-use” among other uses. Accordingly, the Board is bound by the definition which clearly states that the definition of dwelling shall not include hotels or motels or mixed-use.

I am informed and, therefore, believe that Attorney Douglas Heim, Town Counsel for the Town, has provided you with a legal opinion that a mixed-use development is permitted in both zoning districts in which this proposed project is intended to be located.

- Floor Area Ratio Calculation for the Building, Bonus and Open Space<sup>1</sup>

Article 5, Section 5.3.6 references the exceptions to the maximum floor area ratio (“FAR”) regulations or the “bonus” FAR, so-called. The determination that the proposed project is not a dwelling is relevant to the determination of the bonus FAR provisions contained in Article 5, Section 5.3.6. Article 5, Section 5.3.6C sets out the additional gross floor area or bonus FAR permitted.

The square footage of both lots is 14,030. The GFA would be 21,045 square feet (14,030 x 1.5 – see Article 5, Section 5.5.2. The bonus FAR would be 2,104 (21,045 x .10). See Article 5, Section 5.3.6(D)(5).

---

<sup>1</sup> The building inspector, Michael Ciampa, has determined that: (a) the floor area of the cellar of the proposed hotel and restaurant is excluded from the calculation of Gross Floor Area as more than one half of its height, measured from finished floor to finished ceiling is below the average finished grade of the ground adjoining the building. Article 2 and Article 5, Section 5.3.22(A)(6); and (b) bay windows that are more than two feet off the floor are likewise excluded from the calculation of Gross Floor Area.



## KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director  
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Section 5.3.6A specifically authorizes the Board to grant a special permit subject to the standards contained in Section 3.3 or 3.4, as applicable, to allow a maximum gross floor area higher than is permitted in the district subject to the requirements set out at 5.3.6A(1)-(3). Accordingly, the total GFA permitted would be 23,149 (21,045 +2,104). The petitioner's proposed GFA is 22,845 square feet.

The petitioner suggests that this proposal satisfies the requirements of Article 5, Section 5.3.6A(1) and (2).

The petitioner is proposing "public access" space, which will provide for a public art and presentation area located in the front right area of the Property. As such, the Property, two lots which are being aggregated with the B-4 use the larger use, is entitled to a 10% increase in FAR. The revised plans which are attached indicate that the petitioner is granting the Town 675 square feet of bonus FAR space, which is substantially more than is required by the Bylaw.

Mr. Benson requested that I provide a draft easement for review by the Board. Attached is the proposed draft, which I have also sent to Attorney Douglas Heim, town counsel, for his review and comment. The easement will be named after Commander James Curley, past commander of the Arlington Disabled American Veterans' Post and a plaque will be installed at the petitioner's expense.

- Corner Lots, Setbacks and Upper Story Stepback

Article 5, Section 5.3.8(A) provides that a "corner lot shall have minimum street yard depths which shall be the same as the required front yard depths for the adjoining lots. The lot adjoining the property at issue on Clarke Street located in an R-2 zone has a front yard depth of 7.9 feet.

The Bylaw requires no front or side yard setback for a Mixed-Use Development, Article 5, Section 5.5.2(B).

The approved correct version of Article 5, Section 5.3.17 provides for an additional 7.5 foot stepback beginning at the fourth story "along all building elevations with street frontage . . ."<sup>2</sup>

The Board, as confirmed by Town Counsel in his memorandum dated May 13, 2020, has the authority to grant an adjustment to the required setbacks and stepbacks as set forth elsewhere

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<sup>2</sup> Town Counsel's Memorandum dated May 13, 2020, addresses the correct version of Section 5.3.17 to be applied by the Board.



Jennifer Raitt, Director  
June 24, 2020  
Page 4

in the Bylaw to account for specific conditions unique to the proposal. Thus, the Board has the authority to eliminate or reduce the 7.5 stepback referenced in Article 5, Section 5.3.17.

The petitioner suggests that the conditions unique to this proposal are the development of a mixed-use project, which contains a boutique hotel on substantially unimproved lots. In order to be successful, there must be adequate room revenue. The proposed building is located five feet from the property line on Clarke Street at its closest point and goes to twelve feet from the property line on Clarke Street. The petitioner suggests that the setback of the building from the lot line satisfies the spirit and intent of Article 5, Section 5.3.17.

The petitioner suggests that also unique to this proposal is the fact that this Mixed-Use project will convert a vehicular-oriented business district lot to an aesthetically pleasing mixed-use development that will provide amenities for the Town. The Bylaw, in fact, encourages the conversion of B-4 uses "to other retail, service, office, or residential use, particularly as part of a mixed-use development." (emphasis supplied) Bylaw, Article 5, Section 5.5.1(E).

The petitioner suggests that this project comports with the purposes of the Bylaw to, inter alia, "achieve optimum environmental quality through review and cooperation by the use of incentives, bonuses and design review; and to preserve and increase its amenities and to encourage an orderly expansion of the tax base by utilization, development and redevelopment of land." The proposed project also comports with the Master Plan commissioned by the Town.

In the alternative, as a matter of law, the petitioner suggests that on the issue of "frontage" and any fourth floor story stepback along Clarke Street, there is no "frontage" on Clarke Street.

In Cronin v. Zoning Board for the Town of Lunenburg, a 2009 Massachusetts Land Court decision, (Piper, J.), Misc. 08-381588, the court held that the Zoning Board correctly applied the definition of frontage in its bylaw, which provided that frontage was to be measured along a single street bordering the property even if the property bordered two intersecting rights of way. The court held that the Lunenburg bylaw, which references only a single street in defining frontage, intentionally restricted frontage to one street. The court found that the town failed to use less restrictive language in defining frontage to include "any" public or private right of way, thus, requiring an interpretation of the Lunenburg bylaw limiting the definition of frontage to frontage along a single street.

The court concluded, inter alia, in the Cronin case that the definitional language of the bylaw indicated that not more than one street bordering the property would constitute frontage. A copy of the Cronin case is attached.

The definition of "frontage" in the Bylaw is substantially similar to the definition in the Cronin case. Though the Bylaw contains an illustration that references frontage for a corner lot,



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any illustrations in the Bylaw are not dispositive on this issue as the illustrations are “not part of the Arlington Zoning Bylaw.” As such, the Board is to be guided by the applicable case law.

- Parking

The Bylaw requires that in a Mixed-Use project, the number of parking spaces required is the sum of uses computed separately. Bylaw, Article 6, Section 6.1.4. The proposed hotel is fifty (50) rooms, which would require fifty (50) spaces – one space per room. A restaurant use in a hotel requires one space per 400 sq. feet of restaurant space. Bylaw, Article 6, Section 6.1.4. Article 6, Section 6.1.10(C) provides that “[f]or Mixed-Use development, the first 3,000 square feet of nonresidential space is exempt from the parking requirements of this Section 6.1.”

Given that the restaurant space itself is 2,800 square feet or nearly 3,000 square feet, there would be no requirement for parking spaces for this use. Accordingly, the number of parking spaces prior to the application of Article 6, Section 6.1.5 the petitioner is required to provide is fifty (50).

Under Article 6, Section 6.1.5, the Board has the authority to reduce parking in Business zones to 25 percent of that required in the Table of Off-Street Parking Regulations if the proposed parking is deemed adequate and where Transportation Demand Management Practices are proposed.

At the request of Mr. Watson, the petitioner has added an electric car charging station to the project. The petitioner is no longer pursuing his request to include tour bus parking at the proposed site.

The petitioner suggests the proposed parking is indeed adequate and has previously provided a Transportation Demand Management Plan. As such, Article 6, Section 6.1.5(C)(1), (6), (8) and (9) apply, enabling the Board to reduce the number of parking spaces to thirteen (13). The petitioner is proposing twenty-four (24) separate parking spaces, which also includes a handicapped space. Due to various enhancements to the hotel design and to facilitate deliveries in the rear of the project, three spaces were required to be removed. Here, the petitioner seeks a reduction to forty-eight percent of the parking required in the Table of Off-Street Parking Regulations or nearly double the number of spaces required by Article 6, Section 6.1.5. Further, the petitioner has the ability to stack or tandem park eight (8) additional cars due to its use of a valet. The Board may recall this approach was approved for Homewood Suites when it applied for its special permit to expand the number of rooms at the hotel. This brings the number of onsite hotel guest spaces to thirty-two (32) spaces or sixty-four percent (64%) of the spaces required by the Table of Off-Street Parking Regulations or two and one-half times the number of parking spaces required by Article 6, Section 6.1.5.



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June 24, 2020

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Further, as the Board requested, the petitioner has secured ten spaces for employee parking. The Executive Secretary for the Select Board, Marie Krepelka, has advised the petitioner that, once the project is approved, seven (7) parking spaces will be rented to the petitioner in the Ottoson Middle School parking lot when school is not in session, specifically, weekdays from 2:30 p.m. to 7:00 a.m., all day weekends, school holidays and vacation periods or at either the skating rink or Hurd Field. The Town makes available for rental spaces in various Town-owned lots. Further, the petitioner has secured three (3) spaces at 1289 Massachusetts Avenue. See the enclosed letter. These ten (10) spaces would be for employee parking only.

The total available parking spaces would be forty-two (42), thirty-two (32) spaces for use for hotel guest parking and ten (10) parking spaces for use by restaurant and hotel employees.

The petitioner suggests that the available parking provided and the Transportation Demand Management Plan, clearly satisfy the intent and requirements of Article 6, Section 6.1.5.

- Parking Restrictions

The Board has requested that the parking available onsite be exclusively for hotel guests. To best accomplish this, the petitioner suggests that during the hours the restaurant is open that a sign be placed at the drive entrance stating that parking is for hotel overnight guests only. The valet service will only park vehicles for guests staying at the hotel.

- Shadow Study

The petitioner has previously provided the Board with a shadow study. Subsequently, a resident, Don Seltzer, who is not an abutter to this proposed development, submitted an "Extended Shadow Study for Hotel Lexington Project," so-called. Mr. Seltzer is not an expert in the field and his submission is not competent evidence upon which the Board may rely. The Board is required to consider reports and studies prepared by experts in the respective fields.

The enclosed shadow study has been updated based on the site topography and not a flat plane. The study was prepared by Lincoln Architects, a qualified expert in the field.

- Traffic Impact Report

Michael Santos, a professional engineer and a certified professional traffic operations engineer associated with BSC Group, Inc., has previously submitted a traffic information summary dated January 16, 2020.

In his January 16, 2020 summary, he concluded that: (a) the proposed project is expected to have a minimal impact on the surrounding roadway network through most of the day; (b) the



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June 24, 2020

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periods that would experience the most impact will occur during off-peak commuter hours, i.e. hotel check-in and check-out; (c) the proposed restaurant will have the highest impact after the weekday evening commuter peak hours when traffic volumes are typically lower; (d) there will be no right turns from the parking area onto Clarke Street northbound; and (e) all deliveries and trash removal service will occur onsite.

Enclosed is a more detailed traffic impact study performed by Mr. Santos, which contains traffic counts for the area, including intersections identified by the Director of Planning, which confirms and validates Mr. Santos' prior conclusions.

- Plan Revisions

The architectural plans have been revised to reflect various comments from the Board members and residents. Some of the revisions include the reduction in height of the front bay windows, the widening of the band around the front of the building, change in style of the rear fourth floor windows, relocation of the equipment screening on the roof, additional shrubbery and landscaping at the front and side of the property and the removal of the sign facing Clarke Street.

- Submittals

Enclosed is the following additional submittals and/or information as requested by the Board:

- a. Offsite parking letter for hotel and restaurant employee parking.
- b. Passenger loading and unloading will be done in the front driveway and portico. Further, I have spoken with Niles Patel, the proprietor of BB Liquors, the package store, which is the entity that will be occupying 1215 Massachusetts Avenue. Messrs. Patel and Doherty have agreed to consult and coordinate deliveries to ensure that there are no delivery conflicts. Further, deliveries to the hotel and restaurant can be made either in the front driveway or the rear parking area. The petitioner will defer to the Board as to its preference. Deliveries will be scheduled to avoid morning and afternoon rush hours.
- c. Updated shadow study, which is contained in the plan set.
- d. Building elevations and a site survey prepared by Engineering Alliance, Inc.
- e. An updated site plan prepared by Lincoln Architects, LLC, which includes, among other things, the "bonus" FAR, totaling 675 as well as the location of



**KRATTENMAKER O'CONNOR & INGBER P.C.**

Jennifer Raitt, Director  
June 24, 2020  
Page 8

the proposed drainage system. It also shows the turning radius onto Clarke Street from the proposed project.

- f. Plans for sidewalk upgrades adjacent to the curb cut on Clarke Street are included in the plans. The new sidewalks will be to the Town's specifications and will meet ADA requirements.
- g. Lighting/photometric plan prepared by Shepherd Engineering, Inc.
- h. Updated plans that address design issues raised at prior meetings.
- i. Renderings showing the location of rooftop mechanical equipment.
- j. Information as to the exterior siding have been updated and included on the plans. The petitioner is awaiting delivery of material samples for submission to the Board.

Finally, Mrs. Le Royer expressed a concern as to how the Town will ensure that the project once constructed will not deteriorate and will comport with the permit granted. The petitioner suggests that the Board has the ability and routinely exercises its authority to ensure that a project remains in compliance with the general and special conditions voted by the Board by retaining jurisdiction.

On behalf of the petitioner, I thank the Board and Ms. Raitt for the significant amount of time and input they have provided on this project.

Very truly yours,

Mary Winstanley O'Connor

MWO/ccg  
Enclosures  
6214

cc: James F. Doherty



June 19, 2020

Andrew Bunnell, Esq., Chairperson  
Arlington Redevelopment Board

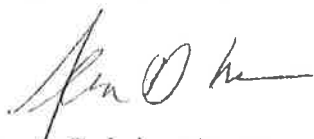
733 Massachusetts Avenue  
Arlington, MA 02476

Re: 1207 - 1211 Massachusetts Avenue, Arlington, MA  
Docket No. 3602

Dear Mr. Bunnell:

This letter shall confirm that, in the event the special permit is granted in the above-referenced matter, I will rent three (3) parking spaces at 1289 Massachusetts Avenue, to be utilized by employees of the proposed hotel.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Sean Galvin", with a stylized flourish at the end.

Sean Galvin, Trustee  
1020-1024 Beacon Street Realty

{00082093 1 }



## EASEMENT AGREEMENT

This **EASEMENT AGREEMENT** (this "**Easement**") is made as of this \_\_\_\_ day of \_\_\_\_\_, 2020, by and among **JAMES F. DOHERTY**, Trustee of the 1211 Massachusetts Avenue Realty Trust, a Massachusetts nominee realty trust under declaration of trust dated November 21, 2012 and recorded in Middlesex So. Registry of Deeds in Book 60543, Page 430 (hereinafter referred to as the "**Grantor**"), and the **TOWN OF ARLINGTON**, a municipal corporation, having an address of 730 Massachusetts Avenue, Arlington, MA 02476, acting by and through its Redevelopment Board (hereinafter referred to as the "**Town**" or "**Grantee**").

### WITNESSETH:

WHEREAS, Grantor is the owner of certain property situated at and known as 1207-1211 Massachusetts Avenue in the Town of Arlington, Middlesex County, Commonwealth of Massachusetts, containing approximately 675 square feet (hereinafter referred to as the "**Property**"), and which is more particularly described on Exhibit A;

WHEREAS, the Town in its Zoning Bylaw, last amended on April 22, 2019, specifically Article 5, Section 5.3.6, empowered the Arlington Redevelopment Board (hereinafter referred to as the "**Board**") to grant a special permit to allow for a maximum gross floor area greater than is permitted to an applicant seeking a special permit, when an easement is granted to the Town for public access and use;

WHEREAS, the Grantor has requested that the Board approve additional gross floor area in consideration of the above-referenced grant of a public access and use easement; and

WHEREAS, the Board on \_\_\_\_\_, 2020 granted a special permit to the Grantor for the properties known and numbered as 1207 and 1211 Massachusetts Avenue, Arlington, MA in Docket No. 3602, which included, inter alia, additional gross floor area for the proposed project referenced therein (hereinafter referred to as the "Project").

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

#### 1. Grant of Easement.

- a. Grant of Easement: Public Use and Access. The Grantor hereby grants to the Town, for the benefit of the inhabitants of the Town of Arlington and the general public, a non-exclusive right and easement over, across and through the land specifically identified in Exhibit "B" attached hereto (hereinafter referred to as the "Easement"). Grantor hereby agrees and acknowledges that the inhabitants of the Town of Arlington and the general public shall have the right, upon the completion of the construction of the Project, to the use and enjoyment of the Easement pursuant to the provisions of subparagraph 1.b. below.



Grantor hereby agrees and acknowledges that Town shall have the right to utilize the Easement for such public activities and events as the Town may desire to sponsor, from time to time, provided, however, that (i) such use by the Town shall be subject to the reasonable rules and regulations as Grantor and the Board may establish from time to time for the Property; (ii) to the extent permitted by law, Town agrees to indemnify and hold Grantor harmless from any and all claims, damages, liabilities, obligations, costs and/or expenses, including, without limitation, reasonable attorneys' fees, incurred or suffered by Grantor as a result any injury, death or property damage suffered by any parties, as the result of the Town's use of the Easement for such purposes; and (iii) to the extent that the Town carries insurance or self-insures against liabilities with respect to public roadways and/or sidewalks within the Town, it will use reasonable efforts to ensure that such self-insurance will cover its use of the Easement for the above purposes. The Easement shall be utilized for cultural, patristic, poetic and educational purposes. It shall not be utilized for any politically partisan purposes. The Easement shall be utilized for scheduled purposes two (2) times per week during the following time periods: Monday-Friday 10:00 a.m.-7:00 p.m. and Saturday-Sunday 11:00 a.m.-8:00 p.m.

- b. Redevelopment of the Property. Grantor shall deliver to Town an as-built plan showing the location of the Easement Area (the "**As-Built Easement Plan**"), which As-Built Easement Plan shall contain the square footage of the Easement Area, shall depict an Easement Area that is materially consistent with the location and extent of the same depicted on the Plans submitted to the Board and shall otherwise be reasonably acceptable to the Town. In the event that the Board does not approve the As-Built Easement Plan within twenty (20) days of its receipt (or deemed receipt) thereof, the As-Built Easement Plan shall be deemed approved by the Board. Upon the Town's approval, whether actual or deemed, of the As-Built Plan, the Grantor shall cause the As-Built Plan to be recorded with the Registry of Deeds and provide the recording information of such Plan to the Town upon the Grantor's receipt thereof.
- c. Grantor's Retained Rights. Grantor hereby agrees and acknowledges that he shall keep the Easement Area open and unobstructed at all times, subject, however, to Grantor's rights contained in subparagraph 1.b. above and to the following further limitations:
  - i. the Grantor specifically reserves the right to construct and install utilities, as well as landscaping, lighting and other amenities, upon, above and below the surface of the Easement Area; provided, however, that such installation of such utilities, as well as landscaping, lighting and other amenities, do not materially interfere with the Town's use and enjoyment of the Easement Area; and



- ii. the Grantor reserves the right to perform any maintenance, repair, and/or replacement of any and all improvements and utilities upon, above, or below the Easement Area, including, without limitation, hardscaped and landscaped elements within such Area, and, in connection with such activities to temporarily close the Easement Area or to restrict pedestrian access to portions thereof. Except in cases of emergency (i.e. occurrences involving an imminent threat of damage or injury to persons or property), which shall be determined in the sole discretion of the Grantor, the Grantor will provide reasonable advance written notice to the Town before commencing any work in the Easement Area that will disrupt, in whole or in part, the Town's use thereof. Whenever any work is to be performed upon the Easement, such work shall be performed (a) in a safe, diligent and workmanlike manner and in compliance with all applicable laws, ordinances, orders, rules, regulations and requirements of all governmental authorities having jurisdiction thereover and with all necessary permits and approvals having been issued therefore, and (b) in a manner that causes the minimum amount of interference with the Town's use and enjoyment of the Easement Area.
  - d. Name. The Easement shall be named "The Commander James Curley Plaza" and will contain a plaque installed by the Grantor containing information as to Commander Curley's volunteer work for the Town and its disabled American veterans.
2. Term. The rights and easements granted herein shall commence upon the grant of a certificate of occupancy for the Project and shall remain in full force and effect for so long as the Project is constructed and continues to exist on the Property and Grantor is exercising its respective rights with regard to the same under any Special Permit granted by the Town of Arlington Redevelopment Board. Notwithstanding the above, the parties hereby agree that if Grantor does not commence the proposed redevelopment Project referenced in Docket No. 3602, this Easement shall automatically terminate and shall be deemed null and void and without further force or effect, without the need for the parties to execute or record any release or any other document.
3. Miscellaneous Provisions. Notwithstanding anything to the contrary contained herein, the rights with respect to the Easement Area are granted subject to the following:
- a. Non-Interference. The Town's use of the Easement Area shall not materially interfere with the use and enjoyment of the Property by the Grantor or his respective successors and assigns. Except for the rights and easement expressly granted herein, no other easements, whether express or



implied, are granted or created by this instrument. Without limitation of the foregoing, nothing herein shall be deemed to create any rights on the part of the Town outside of the Easement Area or any rights to enter onto the Easement Area for maintenance and repair purposes.

- b. Notices. All notices and other communications authorized or required hereunder shall be in writing and shall be given (1) by hand delivery, (2) by mailing the same by certified mail or registered mail, return receipt requested, postage prepaid, or (3) by overnight air courier or express delivery service with proof of delivery acknowledged. Any such notice or other communication shall be deemed to have been given when received by the party to whom such notice or other communication shall be addressed, or on the date noted that the addressee has refused delivery, or on the date that the notice is returned to sender due to the inability of the postal authorities to deliver. Any party hereto may change the address to which notices to it shall be sent by a notice sent in accordance with the requirements of this Section 3.b. Notice shall be given to the following:

**To Grantor:**

James F. Doherty, Trustee  
c/o 1122 Massachusetts Avenue  
Arlington, MA 02476

**With a copy to:**

Mary Winstanley O'Connor, Esq.  
Krattenmaker O'Connor & Ingber P.C.  
One McKinley Square, 5<sup>th</sup> Floor  
Boston, MA 02109

**To Grantee:**

Town of Arlington  
Arlington Redevelopment Board  
733 Massachusetts Avenue  
Arlington, MA 02476  
Attn: Jennifer Raitt, Director of Planning

**With a copy to:**

Douglas Heim, Esq.  
The Office of the Town Counsel  
50 Pleasant Street  
Arlington, MA 02476



- c. Successors and Assigns. The rights, easement, liabilities, agreements and other obligations as set forth shall inure to the benefit of and be binding upon the heirs, successors and assigns of the Grantor; provided, however, that the Grantor shall only be responsible hereunder for matters occurring on or with respect to the Easement Area, and only during its period of ownership of the Property. In no event shall any member, manager, director, officer, employee, shareholder, partner, trustee, tenant, agent or representative of the Grantor, an owner of all or any portion of the Property, or any mortgagee ever be personally liable for the payment or performance of any obligations under this Easement, and the Town agrees to look solely to the Property, in satisfaction of Grantor's obligations under this Easement. The Town acknowledges that it shall not have the right to assign any rights granted hereunder to any party without the written consent of the Grantor, which consent may be granted, withheld, conditioned or delayed in Grantor's sole and absolute discretion. Upon the expiration of the Term as set forth in Section 2 above, Grantors may record an affidavit evidencing such expiration with the Registry.
- d. Subject to Existing Record Matters. The rights and easement herein granted are subject to all restrictions, covenants, easements and other encumbrances of record to the extent in force and applicable.
- e. Amendments. This Easement may be amended or modified at any time by a declaration in writing mutually agreed to, executed and acknowledged by each of the parties hereto, and thereafter duly recorded in the Registry.
- f. Severability. If any term, provision, covenant or condition of this Agreement shall be or become invalid, illegal or unenforceable in any respect under any applicable law, the validity, legality and enforceability for the remaining provisions (or the application of such term, provision, covenant or condition to persons or circumstances other than those in respect of which it is invalid or unenforceable), except those terms, provisions, covenants or conditions which are made subject to or conditioned upon such invalid or unenforceable term, provision, covenant or condition, shall not be affected thereby, and each other term, provision, covenant and condition of this Agreement, unless conditioned upon such invalid or unenforceable term, provision, covenant or condition, shall be valid and enforceable to the fullest extent permitted by law.
- g. Effect on Other Agreements. This Easement does not affect the rights and obligations of the parties under any other agreement between the parties.
- h. Counterparts; Headings. This Easement may be executed in multiple counterparts, each of which shall be deemed an original and all of which, collectively, shall be deemed one and the same instrument. The headings herein are inserted only as a matter of convenience and for reference and in



no way define, limit or describe the scope or intent of this document nor in any way affect the terms and provisions hereof.

- i. Governing Law. This Easement shall be governed by the laws of the Commonwealth of Massachusetts as the same may now exist or may be hereinafter enacted.

*[Signatures appear on the following page]*



EXECUTED as a sealed instrument as of \_\_\_\_\_, 2020.

**GRANTOR:**

1211 MASSACHUSETTS AVENUE  
REALTY TRUST, a Massachusetts  
nominee realty trust

By: \_\_\_\_\_  
Name: James F. Doherty  
Title: Trustee  
Hereunto Duly Authorized

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss:

On this \_\_\_\_ day of \_\_\_\_\_, 2020, before me, the undersigned notary public, personally appeared JAMES F. DOHERTY, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the Trustee of 1211 Massachusetts Avenue Realty Trust, and acknowledged to me that he signed it voluntarily for its stated purpose as the Trustee of the realty trust.

\_\_\_\_\_  
Notary Public

Print Name: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

*[affix seal]*



**GRANTEE:**

TOWN OF ARLINGTON  
REDEVELOPMENT BOARD

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ANDREW BUNNETT, ESQ.  
Chairperson

---

EUGENE BENSON

---

KIN LAU

---

DAVID WATSON

---

RACHEL ZSEMBERY





DANIEL W. CRONIN and JACQUELYN M. CRONIN vs. DONALD BOWEN, RAYMOND BEAL, JAMES BESARKARSKI, HANS WENTHRUP DAVID BLATT, SHEILA LUMI, and PAUL DOHERTY, As They are Members of the Zoning Board of Appeals for the Town of Lunenburg; and EDWARD M. CATALDO, As He is Alternate Building Inspector

MISC 08-381588

October 7, 2009

WORCESTER, ss.

Piper, J.

## DECISION DENYING PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT and GRANTING DEFENDANT'S CROSS-MOTION FOR SUMMARY JUDGMENT

This matter came before the court on the motion for summary judgment filed by plaintiffs Daniel W. Cronin and Jacquelyn M. Cronin ( "plaintiffs" or "Cronins" ). Pursuant to G. L. c. 40A, §17, plaintiffs appeal from the decision ( "Decision" ) of

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the Zoning Board of Appeals (□Board□ or □ZBA□) of the Town of Lunenburg (□Town□) whose members are defendants. The Board filed the Decision with the Clerk of the Town on May 28, 2008. In its Decision, the Board upheld the denial--by the Town's Acting Building Inspector (□inspector□), also named as a defendant--of the Cronins' application for a residential building permit.

The focus of this litigation is on the compliance with the dimensional zoning requirements of the Town of a lot owned by plaintiffs. The plaintiffs assert that the Town officials involved incorrectly measured this property's frontage and lot width, and that a proper calculation would show that the relevant portion of plaintiffs' land in the Town, numbered 27 Oak Avenue, shown on a recorded plan as Lot 2, all as described more particularly below, has both sufficient frontage and lot width to comply with the municipal zoning law. Because the inspector took the contrary view, concluding that Lot 2 failed to meet these dimensional requirements, he denied a building permit which plaintiffs had sought for an abutting parcel they own, known as Lot 1B.

The inspector determined that, because Lots 1B and 2 had been owned together, and Lot 1B came to be established separately as a result of a division of the larger holding--which left Lot 2 in violation of the contested dimensional requirements--Lot 1B was not eligible for a building permit. The inspector applied the doctrine sometimes referred to as "infectious invalidity" to determine that, under the circumstances present here, the dimensional shortfalls of Lot 2, which had already been improved with a residential structure, prevented issuance of the requested building permit for construction of a house on currently unimproved Lot 1B. See, on infectious invalidity, *Alley v. Building Inspector of Danvers*, 354 Mass. 6 (1968).

The inspector's stated grounds for denial were that Lot 2 had insufficient frontage and lot width under the dimensional zoning requirements in the Protective Bylaw of the City of Lunenburg (□Bylaw□). The Board, in its Decision, upheld these conclusions. The defendants assert that the inspector properly applied the Bylaw, and correctly denied the Cronins' building permit request.

On June 13, 2008, the Cronins filed in this court a complaint for judicial review of the Board's denial of their administrative appeal from the building inspector's determination that he could not issue the building permit. On November 17, 2008,



plaintiffs filed a motion for summary judgment and a supporting memorandum of law. On December 19, 2008, the defendants filed an opposition to the plaintiffs' motion, a cross-motion for summary judgment, and a supporting memorandum of law. After argument, upon review of the record, and following consideration of the moving and supporting papers, the court now decides the motions before it.

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The following facts are properly before the court for its consideration based on materials submitted pursuant to Mass. R. Civ. P 56 (c), and appear to be undisputed:

1. As of 2004, the Cronins owned property in Lunenburg located at 31 Turkey Hill Road. In March of that year, the Cronins purchased the neighboring lot, 27 Oak Avenue, the lot at the intersection of Turkey Hill Road and Oak Avenue.

2. Bylaw Section 2.1.1.17 sets forth the following definition of "Frontage":

The linear extent of the line: measured along a street right-of-way from the intersection of one side lot line to the intersection of the other side of the same lot, provided that; a) The lot is on a street or way legally accepted by the Town Meeting vote, or b) The lot is on a street or a way established by a county, state, or federal authority, or c) The lot is shown on a street or a way established by a subdivision plan approved in accordance with the Subdivision Control Law, or d) The lot is on a street or way on a list maintained by the Town Clerk which is determined to qualify for frontage under the provisions of this section. □

3. Bylaw Section 2.1.1.28(b) defines "lot width" as:

Lot width is the minimum distance between the side lot lines of the lot measured on any line parallel to a line joining the intersection of the side lot line with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way line.

4. At the time of purchase, 27 Oak Avenue had a lot width of 140 feet. In this respect, the defendants concede that 27 Oak Avenue was a lawful, pre-existing non-conforming lot.



5. On March 28, 2005, the Lunenburg Planning Board endorsed, under G. L. c. 41 § 81P, a so-called "Approval Not Required Plan" titled "Plan of Land in Lunenburg, Massachusetts Scale 1 in. = 40 ft. Prepared for: Daniel Cronin" ("ANR Plan"), dated February 15, 2005; the ANR Plan was recorded on April 1, 2005 in the Worcester (Northern District) Registry of Deeds in Plan Book 454, Page 21. A copy of a portion of the ANR Plan is attached to this Decision as an exhibit.
6. As shown on the ANR Plan, Turkey Hill Road and Oak Avenue meet at a rounded corner at the 27 Oak Avenue property, which is shown on the ANR Plan as Lot 2. The ANR Plan shows a curve, as measured along the line of the boundary which Lot 2 has with these adjoining streets, having a radius of twenty feet and a circumference of 31.42 feet.
7. The ANR Plan showed the reconfiguration of the land which had been 27 Oak Avenue and 31 Turkey Hill Road to create, in addition to those two previously built-upon house lots, a new lot ( "New Lot" or "Lot 1B") shown on the ANR Plan as Lot 1B, containing 96,762 square feet. It is this Lot 1B for which the unsuccessful application for a building permit was made, giving rise to the appeal now before this court. The New Lot, as shown on the ANR Plan has a 52.88-foot wide stretch of frontage on Turkey Hill Road.
8. According to the ANR Plan, with the creation of the New Lot, 31 Turkey Hill Road, shown as Lot 1A, has 61,043 square feet; 27 Oak Avenue has 40,178 square feet; and the New Lot comprises 96,762 square feet.
9. The ANR plan shows that currently 31 Turkey Hill Road and 27 Oak Avenue each contain one residential building.
10. The ANR Plan also shows that 27 Oak Avenue has two driveways, which enter from both Turkey Hill Road and Oak Avenue. These driveways existed when the plaintiffs purchased the property. 27 Oak Avenue also has a pool located behind the residential structure; the pool is not displayed on the ANR Plan.
11. Neither the New Lot nor 27 Oak Avenue connected to the municipal sewer when the plaintiffs created the New Lot. 27 Oak Avenue depended on a private septic system.



12. In 2004, the plaintiffs proposed to extend the municipal sewer line onto Turkey Hill Road from Oak Avenue, as Turkey Hill Road did not connect to the municipal sewer. This proposal was withdrawn.

13. In January 2005, the plaintiffs' engineer, Mr. Steven Marsden (||Marsden||), met with Building Inspector Sauvageau (| Sauvageau |) to discuss a proposal to connect the New Lot to the municipal sewer present on Oak Avenue. The plan for sewer connection was to have a five foot wide strip of land, at and formerly part of the southwestern side of Lot 2, separated from Lot 2's ownership and transferred to the undeveloped Lot 1B. This strip, denominated Parcel C on the ANR Plan, was to serve as the locus of the sewer pipe connecting Lot 1B to the sewer main in Oak Avenue.

14. On April 5, 2005, the Lunenburg Selectmen, acting as Sewer Commissioners, approved that plan, in the configuration depicted on the ANR Plan.

15. The plaintiffs transferred by deed the fee ownership of the five-foot wide by approximately 260- foot long strip, Parcel C, to serve as an extension of Lot 1B, along the southwestern lot line of 27 Oak Avenue, permitting the New Lot to connect to the municipal sewer in Oak Avenue. The plaintiffs subsequently received the necessary permits, and installed sewer lines in the strip, to connect both 27 Oak Avenue and the New Lot to the sewer main in Oak Avenue.

16. On February 8, 2008, the plaintiffs applied for a building permit to construct a single-family house on the New Lot.

17. In a letter to the plaintiffs dated February 15, 2008, Alternate Building Inspector Cataldo denied the building permit for the New Lot, stating his conclusion that 27 Oak Avenue did not fulfill the minimum frontage requirement of 100 feet in Bylaw § 2.1.1.17, because, in his view, the transfer of the sewer extension strip, five feet in width, had reduced the frontage of what previously had been the 27 Oak Avenue lot from 103 feet to 98 feet (both as measured along Oak Avenue), resulting in less than the 100 feet required; he also took the position that the new lot lines resulted in a reduced lot width of the 27 Oak Avenue property. For these reasons, the inspector determined that infectious invalidity existed, and that the New Lot could not receive the requested building permit.



18. On March 14, 2008, the plaintiffs appealed the denial of the building permit to the Board. The Board heard the plaintiffs' appeal on April 23, 2008 and May 14, 2008.

The Board upheld the Alternate Building Inspector's denial of the building permit for the plaintiffs' New Lot in the Decision. This appeal followed.

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Summary judgment is appropriate in those cases where no genuine issues exist as to material fact and where the moving party is entitled to judgment as a matter of law. *Community Nat'l Bank v. Dawes*, 369 Mass. 550, 553 (1976); Mass. R. Civ. P. 56(c). The moving party must affirmatively show the absence of any triable issues or facts. *Pederson v. Time Inc.*, 404 Mass. 14, 16-17 (1989). In deciding motions for summary judgment, the court may consider pleadings, depositions, answers to interrogatories, admissions on file, and affidavits. *Community Nat'l Bank v. Dawes*, 369 Mass. 550, 553 (1976). The moving party can satisfy this burden by submitting affirmative evidence showing that the opposing party has no reasonable expectation of proving an essential element of its case or by negating an essential element of the opposing party's case. *Kourouvabilis v. General Motors Corp.*, 410 Mass. 706, 716 (1991).

On an appeal under G. L. c.40A, §17, the judge hears the matter de novo and determines the validity of the board's decision on the basis of the facts found by the judge. *Gordon v. Zoning Bd. of Appeals of Lee*, 22 Mass. App. Ct. 343, 348 (1986).

The defendants contend that, notwithstanding the de novo review ordinary in a case such as the one now before me, this matter is one in which the court addresses an issue of local discretion that requires familiarity with local conditions, and so the court ought review the decision of the zoning board with a good measure of deference. It is certainly true that, in appropriate cases, there is a meaningful place in appeals brought under G.L. 40A, §17 for a court to defer to local knowledge and decisionmaking. The local board of appeals brings to the matter an intimate understanding of the immediate circumstances, of local conditions, and of the background and purposes of the entire [zoning] by-law. . . . *Berkshire Power Development, Inc. v. Zoning Bd. of Appeals of Agawam*, 43 Mass.



App. Ct. 828 , 832 (1997) (review of special permit decision) (quoting *Fitzsimonds v. Board of Appeals of Chatham*, 21 Mass. App. Ct. 53 , 57 (1985))(same). The court gives deference to municipal zoning board decisions when the issue requires particularized local knowledge. *Murray v. Board of Appeals of Barnstable*, 22 Mass. App. Ct. 473 , 479 (1986)(same).

In the case at bar, the primary question for decision involves the interpretation of contested provisions of the municipal zoning law, particularly those which define and regulate minimum frontage and lot width. The task for the court is to read and interpret, as a legal matter, the meaning of these enactments, and, having determined their meaning, to apply the provisions to the facts presented by the Cronins' lots, as depicted on the relevant plan. This role is traditionally left to the courts to perform. The language of the Bylaw needs to be read and interpreted, and that is a familiar responsibility of the courts. This is not an instance in which the local Board has made its decision as a discretionary matter, as when a special permit granting authority, exercising the considerable discretion it has in such a case, decides to grant or refuse a special permit. In those kinds of judicial appeals, the court's review is highly deferential.

Here, the question is what the words of the Bylaw mean. The Bylaw is law, locally enacted. To be sure, the view of the zoning board on matters involving interpretation of the bylaw in the municipality is to be sought and considered with respect: at least in the first instance, the board's administrative view is valuable and is wanted. *Fitzsimonds*, supra, 21 Mass. App. Ct. at 57. If, however, the local Board reads the disputed provisions of the Bylaw in a way which the court determines is at odds with their meaning, as a matter of legal interpretation, then the Board's view on the point must yield to the court's. Otherwise, the Board's interpretation of the law might supplant the meaning of it as enacted legislatively in the Town. If there is a reason to look to the local knowledge residing in the Board to aid in the interpretation or application of the meaning of the Bylaw, then some deference certainly is due the Board. Here, on the central questions--the method the Bylaw establishes for the measurement of the minimum frontage length and minimum lot width which corner lots must supply--there is not an obvious reason which especially calls for resort to particularized local knowledge which might reside in the Board in manner which calls for complete deference. Unless the meaning of



the Bylaw provisions is inscrutable as enacted, this is an issue of legal interpretation which focuses on the language of the Bylaw itself. □ Statutory interpretation presents a question of law for the Court. □ *Boston Police Patrolmen Ass'n. v. Boston*, 435 Mass. 718 , 719 (2002).

### Locating Frontage of a Corner Lot

The parties disagree how the Bylaw requires the court to measure the frontage of a corner lot, given their competing interpretation of the relevant words of the Bylaw. The plaintiffs contend that by measuring the length along only one right-of-way, the municipal defendants did not correctly apply the legislative definition of frontage to the Cronins' corner lot. Plaintiffs argue that the words of the Bylaw permit (indeed, require) but one interpretation: that the combined length of the boundary lines of their Lot 2 alongside both Turkey Hill Road and Oak Avenue are to be counted as frontage. Counted this way, the Cronins would have more than sufficient frontage for Lot 2 following the splitting off of the five-foot wide strip used to provide the route for the connecting sewer lines.

Bylaw § 2.1.1.17 does not include an additional method for measuring the frontage required of lots that are bounded by two streets, such as the corner lot at issue, Lot 2. To reinforce their contention that Lot 2's sidelines along both streets should be considered, in the aggregate, as frontage, the plaintiffs reach to other sections of the Bylaw, including those relating to driveways, to reinforce their argument. The Bylaw defines "driveway" as "[a] way for the passage of vehicles from the street used to qualify for required frontage to a garage or off-street parking and loading area." Bylaw § 2.1.1.12. The plaintiffs argue that Lot 2's pair of driveways, which enter it from both streets to reach the garage(s) on Lot 2, qualify both streets to be included in the frontage of that lot. The plaintiff looks to *Bosworth v. Whiteside* for the proposition that "in most instances, the frontage will be the place where traffic from the lot enters and exits from the street." *Bosworth v. Whiteside*, 16 LCR 686 , 689 (2008) (Misc. Case No. 340917) (Piper, J.).

Both the definition of driveway in the Bylaw, and the *Bosworth* opinion, describe activities that ordinarily take place across the frontage of a lot, rather than activities that per se designate particular lot lines as supplying frontage for zoning purposes. Entry and exit from a lot across a lot line do not necessarily define



frontage; traffic also may reach a property using a right-of-way easement over land of another, and that does not necessarily convert the line where the easement meets the lot as frontage for the purpose of measuring minimum required frontage of the lot. *Id.* The Bylaw definition of driveway requires that it connect to the street which supplies the lot's frontage, but frontage, as contemplated by the Bylaw, does not necessarily require a driveway.

Defendants argue that the Bylaw requires frontage to be measured along a single street, indicating the intention to limit the measurement of frontage to one street. The examples listed in Bylaw § 2.1.1.17 (a)-(c), which all refer, in the singular, to a street or way, reinforce the legislative emphasis on using a single street. The defendants present alternative definitions of frontage from the Bylaws of other towns which use less restrictive language in defining frontage, such as any, to demonstrate that the language used in the Bylaw intentionally restricts frontage to one street. Defendants' position on this is persuasive. It is not possible to ignore the clear meaning and thrust of the Bylaw, which limits the availability of frontage, to meet the required minimum length, to frontage along a single street. Bylaw § 2.1.1.17 limits frontage available to satisfy the minimum required to a length measured along a single street bordering the property, even if the property does border two intersecting rights-of-way.

In determining which lot lines should be designated front, side, or rear, courts have considered [t]he general location, the manner in which the particular lot and its adjacent lots have been laid out, the customs of surveyors in that respect, the uses to which the lot has been put as well as those to which it is proposed to be put, the practices of public officers charged with duties respecting it, and all the other pertinent facts touching the customs of the neighborhood. . . . *Bianco v. Ashley*, 284 Mass. 20 , 25 (1933). Analysis of the uncontested record facts supports the conclusion that Oak Avenue should be designated as the front line for the lot in question, Lot 2. The location of the building on this lot implicates Oak Avenue as the front lot line. Treating Turkey Hill Road as the front of Lot 2, and as the road supplying its frontage, would make the existing building violate front yard setback requirements. What is shown on the ANR Plan as Lot 2 previously had its frontage and its address on Turkey Hill Road, but an application for a residential building permit in 1984 modified the address to what it has been called since, 27 Oak



Street. This deliberate selection of Oak Avenue as the street constituting the front line of the parcel was necessary for the then owners to construct the house now on Lot 2 in its present location without violating the existing setback requirements for front and side yards. Plaintiffs have not shown any use of the property that is inconsistent with classifying Oak Avenue as the street constituting the parcel's front line. Lot 2, 27 Oak Avenue, has its frontage on Oak Avenue. Lot 2 does not have frontage on Turkey Hill Road.

### Measuring the Frontage of a Corner Lot

The parties disagree about the proper measurement of the lot's frontage on Oak Avenue. Bylaw § 2.1.1.17 states that frontage is the linear extent of the line: measured along a street right-of-way from the intersection of one side lot line to the intersection of the other side of the same lot. . . . The ANR Plan shows that Oak Avenue and Turkey Hill Road do not meet at the point of an angle, but rather along a rounded corner. According to the ANR Plan, the outermost edge of this curve at the southeast of 27 Oak Avenue, at the two streets' intersection, follows along a portion of a circle which has a radius of twenty feet for a length of 31.42 feet from the first point at which the road bends, to the end of the curve. Plaintiffs, as an alternative position, assert that some portion of this distance should be included in the measured frontage for 27 Oak Avenue. The defendants read the Bylaw to exclude any of the curving distance at the meeting of the two streets from the measure of frontage, asserting that the Bylaw requires a linear frontage measurement, which they say definitionally excludes curves.

The Bylaw does not define or otherwise helpfully address what is meant by "intersection." The court will look to the plain meaning of the word intersection as a place where two or more lines cross or come together. When two lines cross, there is one single point where the lines intersect. The Bylaw definition of frontage designates two points as the starting and ending point of the measured frontage. These points, included in the "extent of a line" measuring frontage, are described as "the intersection of one side lot line to the intersection of the other side of the same lot." Bylaw § 2.1.1.17. The Bylaw does not include provisions that explicitly exclude curves from inclusion in frontage. *Id.* The Bylaw does not provide alternate methods for designating the start- or end-points for measuring frontage if the intersection of a side lot line and the frontage occurs on a curved road. *Id.* It defines



logic and ordinary experience to say that the measurement required to determine adequacy of frontage throughout the Town may only be made, under the words of this Bylaw, where the line along the street right-of-way runs entirely straight.

The Board relies on a narrow reading of the word "linear" in the Bylaw to have the court limit measured frontage to a single straight line. Aside from the presence of "linear" in the definition (a word which simply restates the noun "line") the Bylaw does not explicitly restrict the measurement to only straight lines, and the defendants did not advance any satisfying explanation, supported by the Bylaw, why such a narrow reading would be called for by the Bylaw's words. In ordinary usage, lines may curve or bend. In the real world, lot lines certainly do. Dictionary definitions show that a "line," in common usage, includes, rather than excludes, lines with curvature. See, e.g., The American Heritage College Dictionary, fourth ed., which defines a line as, among many other things: "[a] degree or circle of longitude or latitude drawn on a map or globe..., [t]he equator, [a] border or boundary...[a] demarcation... [a] contour or outline..., [a] mark used to define a shape or represent a contour...."

Nothing in the Bylaw shakes the conclusion that frontage, as defined, cannot be supplied by a line which is to some degree less than unbending. To read the Bylaw definition to apply only to entirely straight lines would leave many lots, with even the most imperceptible of gentle curves in the lines where the lots meet the street, with no guiding method for measuring and satisfying the frontage requirement of the law. That cannot be the reading intended legislatively. The defendants' insistence on counting as frontage nothing less than a straight line would, if accepted by the court, lead to a strained, if not absurd, result in many instances. A lot which had only a tiny straight stretch to its run along the street, and a gentle curve of great length along the rest, would fail to comply with the minimum frontage requirement. The Bylaw clearly states that frontage must start and end at the intersections of the side lot lines with the front line of a property. The Bylaw assumes, and apparently requires, that all lots have a front lot line and side lot lines. The definition emphasizes the importance of the two end-points that establish the limits of the line which supplies frontage, something which takes place whether the frontage is in whole or in part curved, on the one hand, or entirely straight, on the other.



When interpreting statutes, each word is to be given its ordinary meaning without overemphasizing its effect upon the other terms appearing in the statute, so that the enactment considered as a whole shall constitute a consistent and harmonious statutory provision. *Murphy v. Planning Bd. of Hopkinton*, 70 Mass. App. Ct. 385, 394 (2007) quoting *Commonwealth v. Woods Hole, Martha's Vineyard & Nantucket S.S. Auth.*, 352 Mass. 617, 618 (1967). Giving "linear" its plain meaning within the context of the entire statute requires that the frontage be measured in a way that includes both of the intersections of the front and side lot lines.

The Bylaw defines a "corner lot" as "any lot abutting on two (2) or more streets that are intersecting." Bylaw § 2.1.1.28(e). Lot 2 abuts on two streets, Oak Avenue and Turkey Hill Road. They intersect at, or along, the southeast corner of Lot 2. With Oak Avenue supplying the front lot line, Turkey Hill Road supplies Lot 2's side lot line, and the intersection of those two streets establishes a boundary point limiting the extent of 27 Oak Avenue's frontage. That point lies on the eastern end of the line of frontage, where it "intersects" the southern end of the side line along Turkey Hill Road. The Board's proffered interpretation would exclude this point, and would run counter to the Bylaw definition of "corner lot" as including the intersection of the Oak Avenue frontage line with the Turkey Hill side line. This approach also would exclude the entire thirty-one feet of curved lot line that borders, and forms the connection along and between the two (intersecting) streets. The Board's construction appears to ignore the reality that these two streets do, in a plain and obvious way, "intersect," both on the plan and on the ground.

The purpose of requiring "linear" measurements was not to exclude curved edges of a lot from qualifying as frontage, but to show how to measure to see if there exist dimensionally deficient lots. Lots must be measured using a consistent rubric. Measuring from one intersection of side lot line and front line to the other intersection of the same front line with the other side line, whether the frontage is curved or straight, provides an accurate way to calculate the front dimension. Linear measurement of this sort allows the Town to ensure that lots meet consistent dimensional requirements.

The Board asserts that the measured frontage of a lot can not include any distance measured which lies within the street. This is correct, given the words of § 515



2.1.1.28. Its subpart (d) says: "A building lot shall not include any part of the street." As a result, one cannot measure frontage along Oak Avenue all the way to the meeting point of the extensions of the straight lines of the side and front lines of Lot 2; to do so would position the point of their "intersection" in the middle of the traveled way. Said another way, the Bylaw does not countenance measurement of frontage which extends along the straight 98.00 foot long run of the frontage line, and then projects further in a straight line on the same course to the point of tangency with the rounded corner of Lot 2.

The Bylaw, in § 5.2.5, "Corner Clearance," dealing with the need to maintain sight lines where two streets come together, mandates that the area, within the streets and on the lot, formed by these extensions, for a distance of fifty feet in both directions, be kept open. This section requires that measurements for the clearing should be taken from a "point of intersection, or in the case of a rounded corner, the point of intersection of their tangents. . . ." This section projects the side and front lines to an intersection within the street(s). This point, where these two straight lines come together, cannot, as already said, be the measuring point for the eastern terminus of the frontage line along the Oak Avenue side of Lot 2, for it would encompass, as frontage, a line that in part ran into the traveled way.

Instead, the Bylaw calls for the intersection of side and front lot lines to be located on the curvature of the corner of Lot 2, along the line where the plaintiffs' privately owned land meets the layout of the streets used by the public for travel. In this way, the counting does not pick up any phantom length which lies in the street, something the Bylaw's definition forbids. What the Bylaw calls for, taking into account all of its relevant provisions and its purpose, in the case of a lot, like Lot 2, which lies where two streets come together along a small curve, is that the point which ends the frontage be located midway along that curve. The point which forms the eastern end of Lot 2's frontage lies on the curved line halfway along its 31.42 foot length. The half of the curve heading towards Oak Avenue is part of the frontage of the lot, and the other half, which heads up Turkey Hill Road, is the beginning segment of the sideline of Lot 2. This is the proper reading of the Bylaw's frontage requirement. This reading honors the Bylaw's insistence that frontage be measured along a single street right-of-way; the frontage line ends and the side street's line begins at this single point, so no more than one street



provides the frontage. This reading leaves Lot 2 with a frontage of 113.71 feet, well more than the 100 feet required.

At argument, the court considered with counsel the possibility of another approach, namely drawing a straight line to connect, across Lot 2, the two termini of the straight lines alongside Oak Avenue and Turkey Hill Road, and then dividing that connecting line at its midpoint, assigning half of the connecting line's length to the frontage and half to the side line along Turkey Hill Avenue. This alternative is not consistent with the definitions and purpose of the Bylaw, because it measures along an artificially created line that runs within the interior of the Lot, and so the court declines to read the Bylaw in this fashion. But even this method would appear plainly to supply more than enough frontage to make up the two feet by which the 98 foot straight line along Oak Avenue falls short of 100 feet.

On this summary judgment record, as a matter of law, the court rules that 27 Oak Avenue's total frontage measures 113.71 feet, and satisfies the Bylaw's dimensional requirement for frontage. The defendants should not have determined that Lot 2 lacks sufficient frontage.

#### Measuring the Width of Lots Bordered by Multiple Rights-of-Way

That is not the end of the court's inquiry, however. The defendants assigned a separate reason for the denial of the requested building permit for Lot 1B: that Lot 2, improved with the residential structure, lacks the lot width required by the Bylaw.

The Board upheld the inspector's denial of the Cronins' building permit application on the alternative grounds that 27 Oak Avenue did not comply with the minimum width requirements as stated in Bylaw §§ 2.1.1.28 and 5.1.2.1. These two sections require a minimum lot width of 175 feet measured between the side lot lines, and passing through the nearest point of the primary building. Id. "[N]o building shall be constructed on a lot having ... less width than the Required Width Through Building, specified in the following table [175 feet]." Bylaw § 5.2.1.1. "Lot width is the minimum distance between the side lot lines of the lot measured on any line parallel to a line joining the intersection of the side lot line with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way." Bylaw § 2.1.1.28(b).



This definition applies without much parsing or thought where there is a four-sided lot that has frontage on a single right-of-way, and only two points where the two side lot lines meet the only right-of-way. The Bylaw must have meaning, beyond this obvious example, in cases like that now before the court; the Bylaw must be interpreted as well in cases in which the building lot bounds on two rights-of-way, as where there is a corner lot, or even when the lot is bordered by two parallel streets.

The lot now in question, 27 Oak Avenue, is an irregularly shaped corner lot bordered by two rights-of-ways, and has multiple lot lines, several of which do not run alongside either of the streets, and which might thus qualify as side lot lines. Lot 2, we know, has its frontage along Oak Avenue. It cannot have more than one frontage, and plaintiffs do not contend, for purposes of understanding the lot width requirements, that it does. Lot 2 also has two lines which intersect with the frontage line, as determined by the court: the line running along Turkey Hill Road to the midpoint of the curve where Turkey Hill Road and Oak Avenue meet is the first. The second line is that which extends down to Oak Avenue and is the eastern sideline of the five-foot strip through which the sewer connection lines run. These two lines, at a minimum, are side lines of Lot 2.

Plaintiff come up short, however, when they try to show how the distances between these sidelines should be measured to prove Lot 2's compliance with the Bylaw's lot width regulation. Plaintiffs offer alternative interpretations of the Bylaw's lot width requirement, and their claimed interpretations are displayed on a marked plan in the record, prepared by surveyor Stanley R. Dillis, a copy of which accompanies this Decision as an exhibit. This plan illustrates plaintiffs' contention that Lot 2 meets the "minimum lot width through building requirement" because it is possible to draw straight lines, shown on the plan, through or touching the Lot 2 dwelling which exceed 175 feet in length.

Plaintiffs' argument in this respect fails as a matter of law, given the obvious layout of Lot 2, and the words of the relevant Bylaw provisions. The plan they offer proves the wrong point. First and foremost in the lot width definition is that it is the "minimum distance between the side lot lines of the lot" (emphasis supplied). It is on this threshold requirement that the plaintiffs' argument founders. The interpretation proffered by the plaintiffs, depicted in the Dillis exhibit, may well



show a straight line running from one side line to another side line, a straight line which is long enough to meet the 175 minimum applicable to Lot 2 under the Bylaw. The difficulty is that the distance of this line, just a fraction of an inch above the 175 foot required, is not the minimum distance connecting the side lot lines of Lot 2.

Lot 2, as already established, has as one of its side lines the line running along the side of Turkey Hill Road, from Lot 1B (where it meets Turkey Hill Road) southerly to the midpoint of the curve at the place where Turkey Hill Road and Oak Avenue come together. This boundary of Lot 2 is assuredly one of its side lines. There may be others, but this sideline has an intersection with a "right-of-way," Oak Avenue, at the midpoint of the curve. That intersection is ignored in the plaintiffs' rendition of how Lot 2 might comply with the lot width regulation. The plaintiffs' proffered lot width exhibit does not place the parallel lines at the correct alignment. The lines must be drawn to show not the maximum distance between the side lot lines, as the exhibit strains to do, but rather the minimum distance. The minimum distance between the side lot lines lies in the front yard of Lot 2, relative to the building on it, which faces and has its address on Oak Avenue. The minimum distance between the side lot lines of Lot 2 is the length along a line which is the full extension of the line on the exhibit, parallel to Oak Avenue, marked on the exhibit as "40' zoning setback." The length of this line is not given on the exhibit, but there can be no dispute that it is materially shorter than the line proposed by plaintiffs, which only barely measures 175 feet. There can be no doubt that the minimum distance measured between the side lot lines on a line parallel to Oak Avenue, fails to meet the 175 foot minimum the Bylaw mandates.

The correct lot width measurement is not the one which follows from the effort by plaintiffs to find any one possible line with a length of 175 feet which will somehow fit between two points along any two lines which might constitute side lines. This attempt by plaintiffs flies in the face of the Bylaw, which imposes a minimum lot width. Plaintiffs struggle to maximize the line they use to demonstrate compliance, but in doing so they ignore the fundamental purpose of this dimensional requirement, which is that the lot width not be any less than the minimum distance established in the Bylaw.



A line certainly exists which runs between the midpoint on the curve (where the Turkey Hill Road sideline intersects with Oak Avenue) and the westernmost point on the frontage line along Oak Avenue, at the five foot wide extension of Lot 1B (where the western sideline of Lot 2 intersects with Oak Avenue). Any and all lines drawn parallel to this one, and lying between it and the nearest point of the building on Lot 2, surely cannot measure anywhere close to the necessary 175 feet. (The minimum lot width measurement must be taken along a line--the shortest line--that lies parallel to a line joining the intersection of the side lot lines with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way line.) This is why Lot 2 as now configured fails to meet the minimum lot width requirement--because the width of the lot in what is, by any measure, the front yard of Lot 2 comes up very much short of 175 feet.

From this conclusion, it follows that the inspector and the Board correctly determined that the lot width of Lot 2 violates the Bylaw. The Town appropriately concedes that, prior to the reconfiguration of the property involved, to benefit and provide the sewer connection leg to the New Lot, 27 Oak Avenue's width, though less than required under the Bylaw, had been protected as a matter of prior nonconformity by G. L. c. 40A, § 6. See *Rourke v. Rothman*, 448 Mass. 190, 197 (2007) quoting *Adamowicz v. Ipswich*, 395 Mass. 757, 763 (1985). The defendants correctly assert, however, that the conveyance from the developed Lot 2 to the vacant Lot 1B of the five-foot sewer extension reduced the width of Lot 2, and increased 27 Oak Avenue's noncompliance with the Town's dimensional zoning regulations. And this leads to a situation where, in a manner prohibited by the Bylaw and by general principles of zoning, a previously nonconforming lot improved with a building has been changed in a way that would makes it not compliant with the Bylaw, and which, as a matter of objective measurement of the width of the lot, increases the lot's non-conformance. See Bylaw § 5.1.6.1: "No lot on which a building is located... shall be reduced or changed in size or shape so that the building or lot fails to comply with lot... width... provisions of this Bylaw, or, if such building or lot already fails to comply with said provisions, such reduction or change would bring about a greater degree of non-compliance with said provisions."



This means, further, that the defendants were within their rights to decide that Lot 1B, though not itself the locus of the lot width deficiency, was not eligible for a building permit for new construction, because Lot 1B was made up of land formerly part of Lot 2, and the land taken from Lot 2 caused it to become less compliant with the lot width requirement of the Bylaw. See *Alley v. Building Inspector of Danvers*, 354 Mass. 6, 7 (1968) (creating a conforming lot by depriving another lot of a characteristic required in a Bylaw was held improper).

Plaintiffs argued this appeal on the basis that Lot 2 as now constituted complies with the relevant dimensional requirements of the Bylaw. On the record submitted, without any dispute of material fact and as matter of law, the court rules that that is not the case. Plaintiffs did not present to the Board, nor to this court, any argument that, notwithstanding the reconfiguration of the lots involved, Lot 2, while deficient under current zoning dimensional regulation, may still be able to receive some protection based on its prior nonconformity, including by way of a special permit or finding under the provisions of Article 7 of the Bylaw or under Section 6 of G.L. c. 40A. That argument could not proceed on this case as pleaded, and certainly not on the record now before the court, which does not show plaintiffs made any request for a special permit of this sort. It is not at all clear that any such special permit could even be available under any circumstances, given the language of Article 7 and Section 6, but this Decision by the court neither addresses or forecloses any such possibility.

After argument, review of the record assembled and submitted pursuant to Mass. R. Civ. P. 56 and Land Court Rule 4, and consideration of the written submissions of the parties, the court determines that the plaintiffs have failed to show that 27 Oak Avenue complies with the Bylaw's dimensional requirements as to lot width. The court rules that the Board correctly denied the plaintiffs' administrative appeal from the denial of their building permit application for Lot 1B. Defendants' motion for summary judgment is GRANTED and plaintiffs' motion for summary judgment is DENIED. Judgment will enter upholding the Decision of the Board.

Judgment accordingly.

By the court. Piper, J.

Dated: October 7, 2009.





**Proposed Hotel Development  
1207-1211 Massachusetts Avenue  
Traffic Impact and Access Study**

Arlington, Massachusetts

June 2020

**Prepared for:**

1211 Massachusetts Avenue Realty Trust

1122 Massachusetts Avenue

Arlington, Massachusetts 02472

**Prepared by:**

BSC Group, Inc.

803 Summer Street

Boston, MA



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## Executive Summary

BSC Group (BSC) has prepared this Traffic Impact and Access Study (TIAS) to evaluate the potential traffic impacts associated with the proposed construction of a 50-key hotel and ancillary restaurant space to be located at 1207 – 1211 Massachusetts Avenue in Arlington, Massachusetts. The existing site contains a 2,500 square foot (sf) Disabled American Veterans (DAV) building, a used car dealership, an automobile service station, and a three-bedroom apartment, which contains 3,031 sf of space. There are currently two curb cuts along Massachusetts Avenue and one curb cut along Clark Street that provide access to the existing uses on the site. The DAV building recently closed and operated similarly to a restaurant. All uses on the existing site will be demolished as part of the Project.

Vehicular access will be provided by a valet operated pick-up/drop-off area with two curb cuts along Massachusetts Avenue. Access to the parking area will be along the east side of Clark Street, on the north side of the site. A total of 24 parking spaces will be provided behind the hotel to serve the future guests and visitors.

The site is in proximity to numerous transit opportunities, including the Massachusetts Bay Transportation Authority (MBTA) #77 and #79 bus routes and is located within a few miles of the MBTA Red Line at Alewife Station.

This study includes a review of existing traffic and roadway conditions in the vicinity of the project site, as well as a review of the motor vehicle crash history at study area intersections. This report identifies background traffic growth for study area roadways, estimates additional traffic generated by the industrial park, and evaluates potential traffic impacts due to Project-generated traffic. The study shows the following:

- The proposed Project is expected to generate approximately 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday afternoon peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.
- Compared to the No-Build condition, the study area intersections serving the Project are expected to operate at the same LOS with the addition of the expected Project-generated traffic. No additional mitigation or capacity enhancements are necessary at the study intersections or on the surrounding transportation infrastructure to accommodate the Project.
- Both required stopping sight distance and recommended intersection sight distances are met at both driveway locations.
- There are safety issues at the intersection of Massachusetts Avenue at Appleton Street and Appleton Place based on the MassDOT crash data. A fatal collision involving a bicyclist recently occurred at this location.

In conclusion, it is the opinion of BSC Group that the vehicle trips generated by the Project can be accommodated at the study area intersections and roadways without the need for additional mitigation. Further investigation into the safety issues throughout the study area should be considered by the Town of Arlington.



## 1 Introduction

BSC Group (BSC) has prepared this Traffic Impact and Access Study (TIAS) to evaluate the potential traffic impacts associated with the proposed construction of a 50-key hotel with ancillary restaurant uses on the first floor to be located at 1207-1211 Massachusetts Avenue in Arlington, Massachusetts.

This study includes a review of existing traffic and roadway conditions in the vicinity of the project site and the motor vehicle crash history at study area intersections. This report identifies background traffic growth for study area roadways, estimates additional traffic generated by the Project, and evaluates potential traffic impacts due to Project-generated traffic.

The Project will consist of the construction of a new 50-room hotel and restaurant at 1211 Massachusetts Avenue. The Project site is located along the north side of Massachusetts Avenue and is adjacent to Clark Street on the west. Vehicular access will be provided by a valet operated pick-up/drop-off area with two curb cuts along Massachusetts Avenue. Access to the parking area will be along the east side of Clark Street, on the north side of the site. A total of 24 parking spaces will be provided behind the hotel to serve the future guests and visitors.

The existing site consists of both 1207 and 1211 Massachusetts Avenue and contains a 2,500 square foot (sf) Disabled American Veterans (DAV) building, a used car dealership, an automobile service station, and a three-bedroom apartment, which contains 3,031 sf. There are currently two curb cuts along Massachusetts Avenue and one curb cut along Clark Street that provide access to the existing uses on the site. The DAV building recently closed and operated similarly to a restaurant. All uses on the existing site will be demolished as part of the Project.



## 2 Existing Conditions

The study area selected for the Project includes the nearby roadways and intersections expected to be impacted by the development. This section describes the study area roadway and intersections.

### 2.1. Study Area

The study area for the traffic impact analysis includes the following intersections:

- Massachusetts Avenue at Lowell Street
- Massachusetts Avenue at Clark Street
- Massachusetts Avenue at Appleton Street and Appleton Place
- Massachusetts Avenue at Forest Street and Burton Street

The location of the Project in relation to the surrounding roadway network is shown in Figure 1.

### 2.2. Existing Roadway Conditions

**Massachusetts Avenue** is a two-lane arterial roadway under the Town of Arlington jurisdiction that travels in an east-west direction between the Town of Lexington in the west and the City of Cambridge in the east. Throughout the study area, Massachusetts Avenue is designated as State Route 2A.

Massachusetts Avenue consists of a single travel lane and a parking lane in each direction through the study area. Bicycle sharrows are also provided in each direction through the study area. The directions of travel are separated by a double-yellow centerline. Land uses along Massachusetts Avenue primarily consist of commercial uses. Nearby side streets provide access to the adjacent residential neighborhoods on the north and south sides of the corridor. Sidewalks are provided along both sides of the roadway.

### 2.3. Existing Intersection Conditions

The following describes the geometric conditions and traffic control at the study area intersections. Figure 2 shows the lane geometry and traffic control at the study area intersections.

#### Massachusetts Avenue at Lowell Street

Lowell Street intersects Massachusetts Avenue from the north to form this three-legged, unsignalized intersection west of the Project site. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Lowell Street southbound approach intersects Massachusetts Avenue at a severe skewed angle and consists of a single travel lane under STOP-sign control. A crosswalk is provided across the Lowell Street approach. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.





Figure 1  
 Project Location & Study Area  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



Massachusetts Avenue at Clark Street

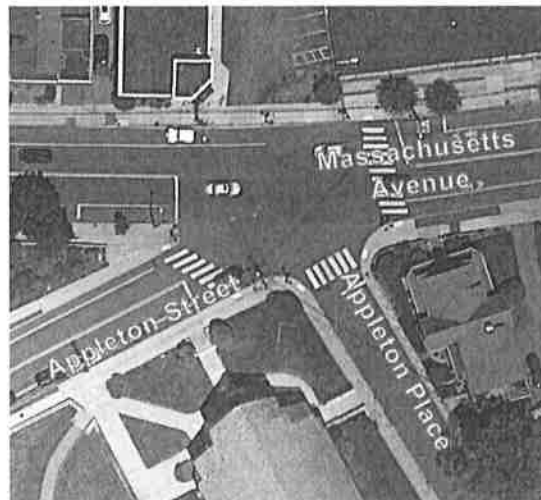
Clark Street intersects Massachusetts Avenue from the north to form this three-legged, unsignalized intersection adjacent to the west side of the Project site. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Clark Street southbound approach consists of a single travel lane under STOP-sign control. A crosswalk is provided across the Clark Street approach. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of the Project site, commercial and residential properties.



*Massachusetts Avenue at Lowell Street and Clark Street*

Massachusetts Avenue at Appleton Street, Appleton Place, and a Private Driveway

Appleton Street and Appleton Place intersect Massachusetts Avenue from the south and a private driveway intersects Massachusetts Avenue from the north to form this five-legged intersection under STOP control. The intersection is controlled by the flashing signal and a STOP-sign along the Appleton Place approach. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. MBTA bus stops are also located along Massachusetts Avenue at the intersection. The Appleton Street northbound approach consists of a single travel lane and is controlled by a red signal indication. The Appleton Place northbound approach consists of a single travel lane and is under STOP-sign control. The driveway southbound approach also consists of a



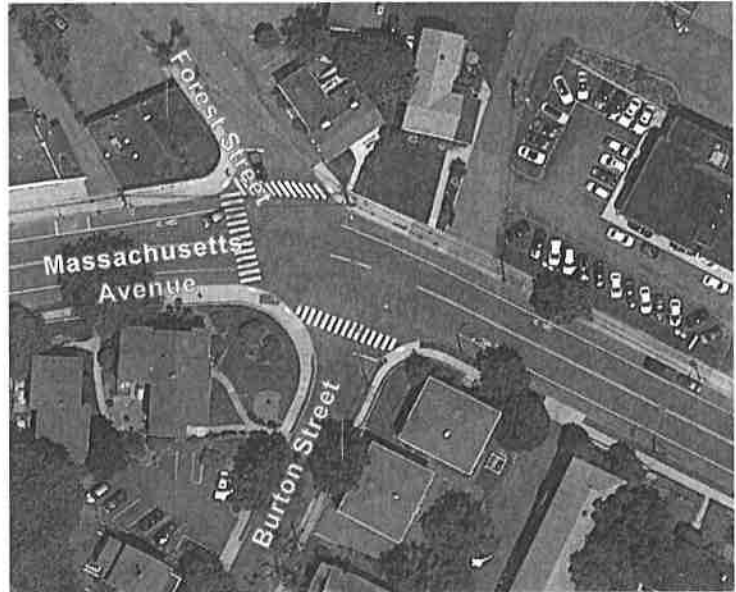
*Massachusetts Avenue at Appleton Street, Appleton Place, and a Driveway*



single travel lane under STOP control, although a STOP-sign is not provided. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.

Massachusetts Avenue at Forest Street, Burton Street, and a Private Driveway

Forest Street and a private driveway intersect Massachusetts Avenue from the north and Burton Street intersects Massachusetts Avenue from the south to form this five-legged intersection under STOP-sign control. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Forest Street and driveway southbound approaches and the Burton Street northbound approach all consist of single travel lanes and are under STOP-sign control. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.



*Massachusetts Avenue at Forest Street, Burton Street, and a Driveway*



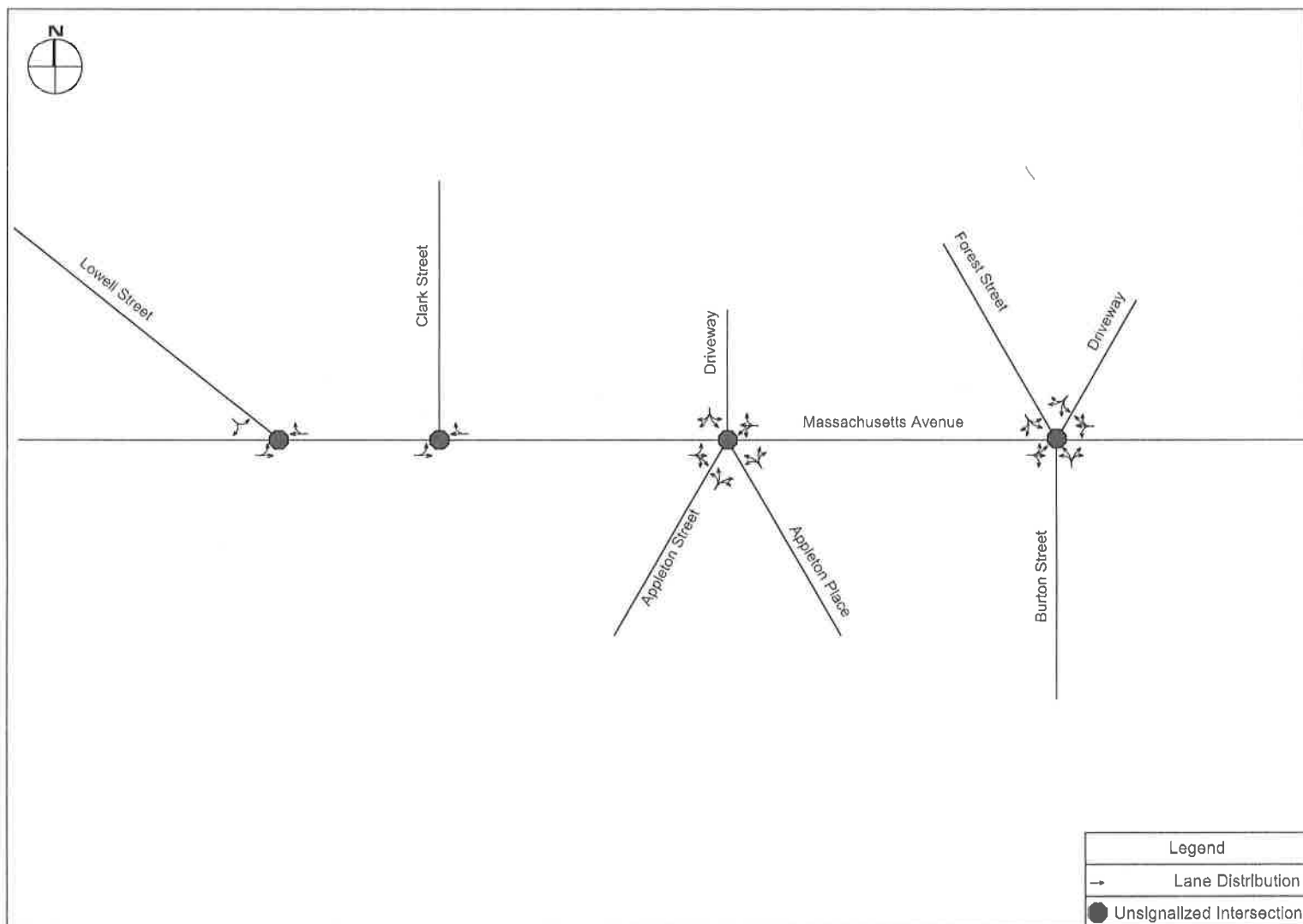


Figure 2  
Existing Conditions Geometry and Traffic Control  
1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
Arlington, MA



## 2.4. Existing Traffic Conditions

Existing traffic data was collected to establish a baseline condition for the analysis of the Project's traffic impacts. Manual turning movement counts (TMCs) were obtained from a traffic study for the nearby proposed Mirak Mill Apartments project for two study area intersections (Massachusetts at Appleton Street/Appleton Place and Massachusetts Avenue at Forest Street/Burton Street) for the weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak periods. Due to issues with COVID-19 related traffic fluctuations, new counts could not be conducted at the two remaining intersections. Data was obtained from a traffic study conducted for a residential development located at 19R Park Avenue to estimate the traffic volumes along Lowell Street. Traffic volumes along Clark Street were also estimated based on data provided in the Mirak Mill Apartments traffic study. Automatic traffic recorder (ATRs) data was also obtained from the Mirak Mill Apartments traffic study to estimate daily traffic volumes along Massachusetts Avenue in the vicinity of the Project site.

A factor was applied to the February 2020 TMCs to account for seasonal fluctuations in traffic flow. Based on MassDOT data, traffic volumes along urban principal arterial roadways similar to Massachusetts Avenue are three percent lower in February than during an average month. Traffic volumes on local roadways and collector streets, traffic volumes in February represent average month conditions. To account for seasonal fluctuation and to represent average month conditions, the February TMCs were adjusted upward by 3 percent. The through volumes along Massachusetts Avenue were balanced between the intersections with Appleton Street and Appleton Place, Clark Street, and Lowell Street.

Peak hour traffic volumes are heaviest along Massachusetts Avenue during the peak hours, as this is a major commercial and commuter corridor that provides access between Lexington in the west and Cambridge, Somerville, and Boston in the east. The TMCs are shown in Figure 3 and the ATR data is presented in Table 1. The detailed traffic data is provided in the Appendix.

**Table 1 Automatic Traffic Recorder (ATR) Data Summary**

	Massachusetts Avenue, east of Burton Street
<b>Weekday Daily Volume<sup>1</sup></b>	13,127
<b>Weekday Morning Peak Hour</b>	
Volume <sup>2</sup>	1,052
K Factor <sup>3</sup>	8%
Directional Flow <sup>4</sup>	53% WB
<b>Weekday Evening Peak Hour</b>	
Volume	1,051
K Factor	8%
Directional Flow	57% EB

- 1 vehicles per day
- 2 vehicles per hour
- 3 percentage of daily trips that occur during the peak hour
- 4 percentage of peak hour traffic by direction



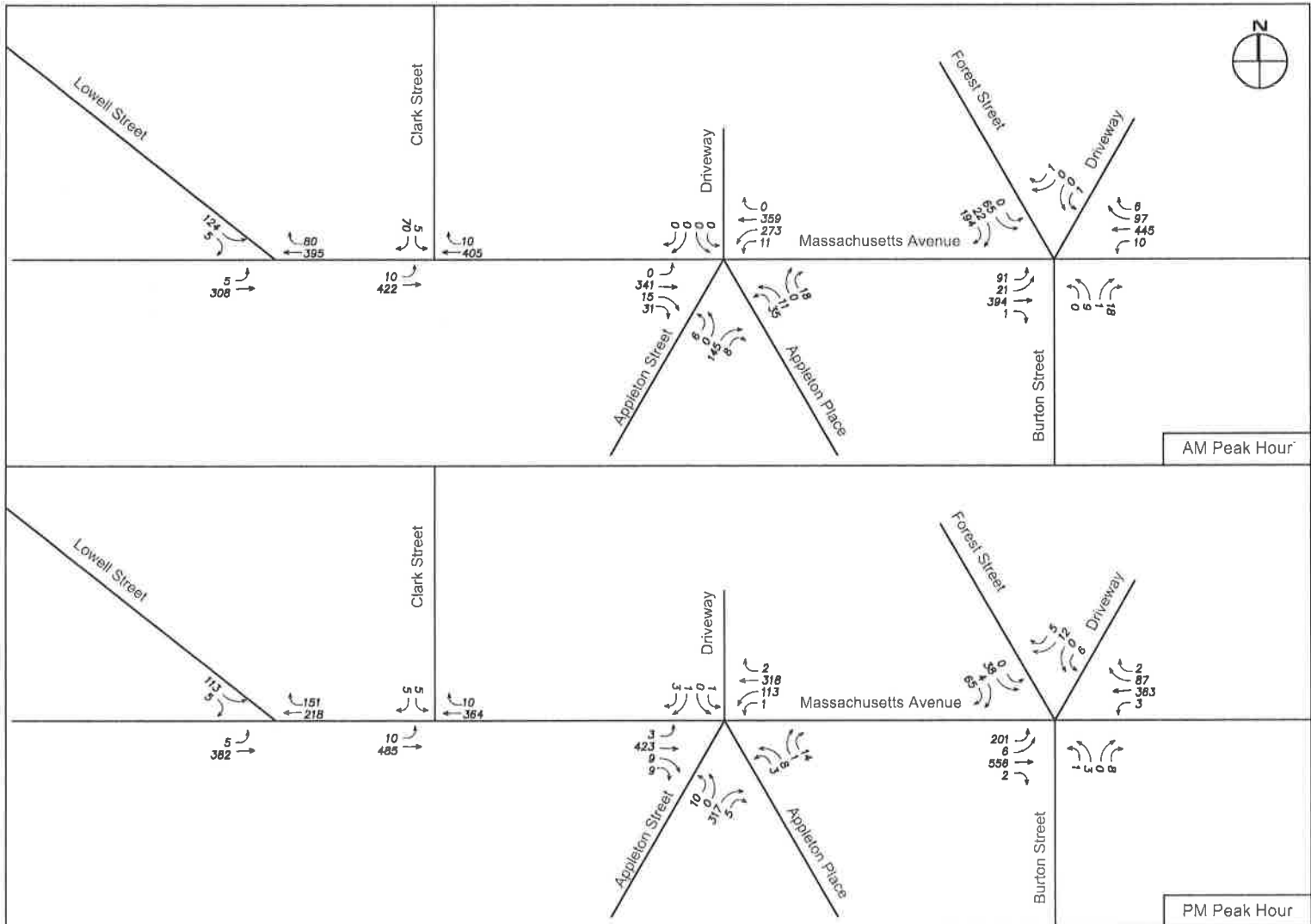


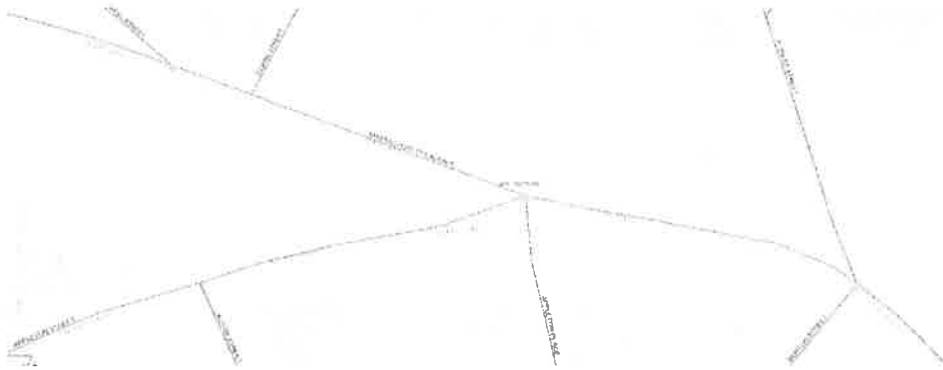
Figure 3  
 2020 Existing Conditions Peak Hour Traffic Volumes  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



### 2.5. Motor Vehicle Crash Data

Motor vehicle crash data were obtained for the Project's study area from the MassDOT crash database for the most recent three-year period for which data is available (2017-2019). The data is used to identify correctable safety issues and crash trends. The current MassDOT average crash rate for unsignalized intersections in District 4 (the MassDOT district in which the Project is located) is 0.57 crashes per million entering vehicles (mev). The average crash rate for signalized intersections in District 4 is 0.73 crashes per mev. Figure 4 displays the location of the motor vehicle crashes (shown as orange circles) and Table 2 presents the motor vehicle crash data for the years 2017-2019.

**Figure 4** Location of Motor Vehicle Crashes in Study Area



Based on a review of the motor vehicle crash history at the study area intersections, the crash rates at the intersections of Massachusetts Avenue at Lowell Street and Massachusetts Avenue at Appleton Street and Appleton Place exceed the MassDOT District 4 averages for unsignalized intersections.

Recently, the intersection of Massachusetts Avenue at Appleton Street and Appleton Place experienced a fatal collision involving a bicyclist. While the details of this crash were not available at the time of this study, it is evident that this location has significant safety issues related to bicyclist and motorist conflicts. The awkward geometry, on-street bicycle facilities, flashing signal equipment, and solar glare during the morning and evening may be major factors in the existing safety issues at this location.



**Table 2 Motor Vehicle Crash Data Summary**

	Mass. Avenue/ Lowell Street	Mass. Avenue/ Clark Street	Mass. Avenue/ Appleton Street/ Appleton Place	Mass. Avenue/ Forest Street/ Burton Street
<b>Total Crashes</b>	<b>7</b>	<b>1</b>	<b>10</b>	<b>10</b>
<i><b>Year</b></i>				
2017	2	1	4	2
2018	3	0	0	0
2019	2	0	6	8
<i><b>Severity</b></i>				
Property Damage	5	0	9	7
Injury	1	1	0	1
Fatality	0	0	0	0
Unknown	1	0	1	2
<i><b>Collision Type</b></i>				
Angle	1	0	5	4
Rear End	2	0	5	5
Sideswipe	3	0	0	0
Single Vehicle Crash	1	0	0	0
Head-on	0	1	0	0
Other	0	0	0	1
<i><b>Time</b></i>				
Peak Hours	0	0	2	3
Off-Peak Hours	7	1	8	7
<i><b>Road Conditions</b></i>				
Dry	7	1	5	7
Wet/Ice/Snow	0	0	5	3
Other	0	0	0	0
Average Per Year Intersection Type Calculated Crash Rate <sup>1</sup>	2.3 Unsignalized 0.59	0.3 Unsignalized 0.09	3.3 Unsignalized 0.60	3.3 Unsignalized 0.54

<sup>1</sup> Crashes per million entering vehicles, as defined by the MassDOT Highway Division

## 2.6. Sight Distance Evaluation

Sight distance measurements and calculations were conducted at the location of the proposed site driveways along Massachusetts Avenue. An analysis of stopping sight distance (SSD) and intersection sight distance (ISD) confirms that adequate sight distance is provided along Massachusetts Avenue to allow safe maneuvers to and from the site driveways.

Stopping sight distance is the distance required for a vehicle to perceive an object in the roadway, decelerate, and come to a stop before reaching the object. Intersection sight distance is the distance between an approaching vehicle and a side street or driveway to allow a vehicle to safely maneuver through the intersection from the side street or driveway. SSD is a requirement along all roadways to ensure safety is maintained along the length of a given roadway. ISD is a recommended guideline to ensure vehicles traveling through an intersection from a stop condition can easily and comfortably make a turning or through maneuver.



The available sight distance at the driveways exceeds 600 feet in both directions. On-street parking is allowed along this segment of Massachusetts Avenue and parked vehicles may occasionally limit lines of sight from back of the sidewalk at the driveway locations. Vehicular speed data was not collected along Massachusetts Avenue. A design speed of 40 mph was used to calculate sight distance requirements. The required SSD based on a 40 mph approach speed is 305 feet and the recommended ISD based on a 40 mph approach speed is 445 feet.

Based on this evaluation, there is sufficient sight distance to accommodate both SSD and ISD at the proposed site driveways. The driveway has clear lines of sight to the signalized intersection to the east and will operate with acceptable operations based on these lines of sight.

## **2.7. Public Transportation**

Public transportation services are located in proximity to the Project site, offering guests and employees of the future site non-vehicular options for transportation. The Massachusetts Bay Transportation Authority (MBTA) operates several bus lines that travel near the Project site. MBTA bus routes 77 and 79 travel along Massachusetts Avenue between Arlington Heights and Alewife and Harvard Stations, providing connections to the Red Line branch of the MBTA's subway system. MBTA bus route 62 also travels near the Project site along Park Avenue and providing service between Bedford and Alewife Station. The closest bus stops are located along Massachusetts Avenue at the intersection of Appleton Street, east of the site.



### 3 Future Conditions

Traffic volumes in the study area were projected to the year 2025, which reflects a five-year traffic planning horizon from the year of this study. The future traffic volumes consider both general traffic growth trends in the area and new traffic expected to be generated by major planned and proposed projects in the vicinity of the Project. The 2025 No-Build conditions represent a future scenario that incorporates traffic growth and any planned roadway infrastructure projects that will impact traffic volumes in the study area. The Project impacts are analyzed by estimating the number of vehicular trips expected to be generated, distributing through the study area network, and then adding them to the 2025 No-Build conditions. The 2025 Build conditions represent a future scenario that incorporates the expected Project-generated trips. The following sections describe the development of the future conditions scenarios.

#### 3.1. Background Traffic Growth

A two percent annual growth rate was applied to the existing conditions traffic volumes to develop the future 2025 traffic volumes. The growth rate is consistent with other recent studies conducted for nearby projects. This growth rate reflects a conservative estimate. The Town of Arlington's 2015 Master Plan anticipates a much lower traffic volume growth rate over the next ten years (3.3 percent over a ten year period).

Traffic volumes expected from planned and proposed projects are also incorporated into the future 2025 traffic conditions. As previously mentioned, the Mirak Mill Apartments residential project is proposed to be constructed to the east of the Project site. This project will consist of the demolition of some uses on that site and the construction of 130 residential units. Traffic volumes expected to be generated from this project were obtained from the traffic study and were added to the future 2025 traffic conditions.

The two percent annual growth rate and the expected traffic related to the Mirak Mill Apartments were added to the 2020 Existing conditions peak hour traffic volumes to develop the 2025 No-Build conditions weekday morning and evening peak hour traffic volumes. The 2025 No-Build traffic volumes are shown in Figure 5.



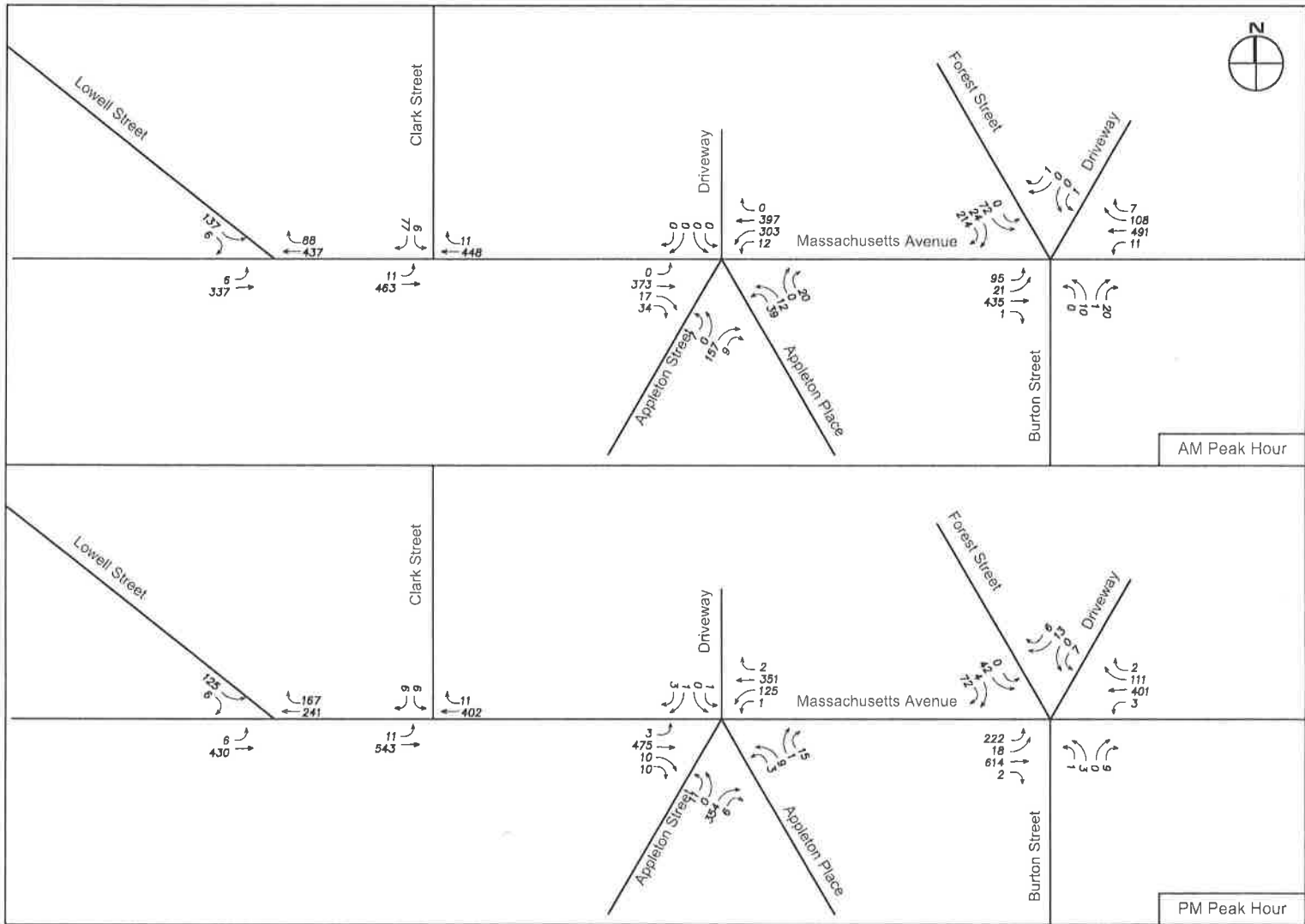


Figure 4  
 2025 No-Build Conditions Peak Hour Traffic Volumes  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



### 3.2. Site Access and Parking

The Project site abuts the north side of Massachusetts Avenue and the east side of Clark Street east of the Arlington Heights neighborhood. The site will be served by a one-way circulating driveway that will serve as a valet pick-up/drop-off for visitors to the hotel. A parking lot will be located behind the hotel and will have access off the east side of Clark Street.

The Project will provide a total of 24 parking spaces for the hotel uses. A tandem-style garage will be located in the rear of the building on the north side of the site and will contain all 24 parking spaces. All parking on the site will be valet and will serve both the hotel and restaurant uses. The Project will not have any spaces for self-parking. On-street parking is allowed along both sides of Massachusetts Avenue. The Project will not change the overall number of available on-street parking spaces.

All loading and trash operations will occur in the rear of the building via the Clark Street curb cut. Deliveries will occur either in the pick-up/drop-off area or in the rear of the building, depending on the anticipated duration. Deliveries and loading operations will be limited to single-unit box trucks and smaller vehicles.

The Project will also provide outdoor bicycle racks for public use along Massachusetts Avenue. The racks will serve guests of the hotel and restaurant. A second bicycle storage facility will be provided on the site for employees that will work on site. The Project will also upgrade all adjacent sidewalks and pedestrian facilities as needed.

### 3.3. Trip Generation

Trip generation estimates for the Project are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition. Trip generation estimates were developed for the proposed 50-room hotel. Estimates are also presented for the existing uses on the site for comparison purposes. Table 3 presents the trip generation for the Project.

**Table 3 Trip Generation Summary**

	Project Trips			Existing Uses					
					Automobile				
Time Period	Hotel <sup>1</sup>	Restaurant <sup>2</sup>	Total	DAV Club <sup>2</sup>	Auto Dealership <sup>3</sup>	Service Station <sup>4</sup>	Apartment <sup>5</sup>	Total	Net Change
<i>AM Peak Hour</i>									
Entering	14	15	29	15	1	3	0	19	+10
Exiting	<u>10</u>	<u>13</u>	<u>23</u>	<u>13</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>15</u>	<u>+8</u>
Total	24	28	52	28	1	4	1	34	+18
<i>PM Peak Hour</i>									
Entering	15	17	32	17	0	3	1	21	+11
Exiting	<u>15</u>	<u>10</u>	<u>25</u>	<u>10</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>13</u>	<u>+12</u>
Total	30	27	57	27	1	5	1	34	+23

1 Based on ITE Land Use Code (LUC) 310 – Hotel (50 Rooms)

2 Based on ITE LUC 932 – High Turnover Sit Down Restaurant (2,800 sf)

3 Based on ITE LUC 841 – Automobile Sales, Used (264 sf)

4 Based on ITE LUC 942 – Automobile Care Center (1,650 sf)

5 Based on ITE LUC 220 – Multi-Family Housing, Low-Rise (1 unit)



Based on the trip generation estimates, the Project is expected to generate 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday evening peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.

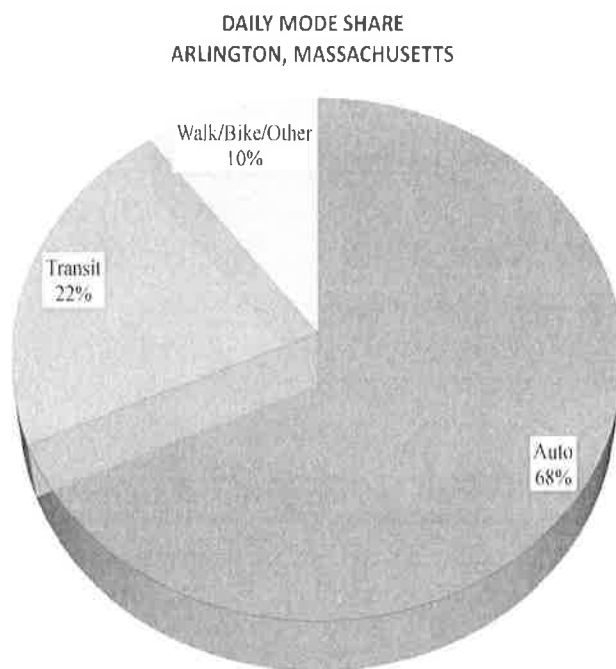
The peak hour trips are typically the most critical because those time periods are when the adjacent roadways experience the highest traffic demands throughout the course of the day. The peak hour increases represent approximately one additional trip every 2-4 minutes.

### 3.4. Mode Share

The trip generation estimates provided in Table 3 do not consider alternative modes of transportation such as walking, bicycling, and transit usage. Based on the location of the site and the proximity to two highly used MBTA bus routes (Routes #77 and #79), it is expected that a portion of the trips will be made by public transportation. It is also expected that a portion of the hotel-related trips will be made by taxi or ride-hailing service and will not use Clark Street for parking purposes. The following section discusses the mode shares for travel in the vicinity of the Project.

Mode-split data for the census tract in Arlington in which the Project site is located were obtained from the United States Census. The primary modes of travel for the Project are expected to be transit, walk/bicycling, and vehicular usage. The US Census provides travel mode shares over the course of an average weekday for commuting purposes only. However, the mode shares to provide an insight into the availability and convenience of non-vehicular modes of travel. The mode shares for the census tract in which the Project site is located are presented below.

The predominant mode of commuting travel in this area of Arlington is by vehicle (68 percent). Transit



trips account for approximately 22 percent of travel and the remaining 10 percent of trips are made by walking, biking, or other travel modes. As previously stated, the mode shares represent daily commuting trips. It is expected that the hotel and restaurant usage of the Project will include taxi trips and may not exactly reflect commuting patterns. Additionally, the restaurant will serve the hotel guests and residents of the surrounding neighborhoods, allowing for a further reduction in vehicle-based trips. Further, the commuter mode share



percentages do indicate that there are opportunities other than driving for guests of the hotel once they are on-site.

### 3.5. Trip Distribution

Vehicular trip distribution patterns identify the origins and destinations for trips related to the Project site. Trip distribution patterns for the proposed uses were identified using existing traffic volumes along Massachusetts Avenue. It is assumed that traffic volumes along Massachusetts Avenue will accurately reflect the origins and destinations for trips related to the Project site. Based on the volumes, approximately 60 percent of the trips will be oriented to/from the east and 40 percent will be oriented to/from the west. Approximately 5 percent of the trips oriented to/from the west were assigned to Appleton Street, as it provides convenient access to Park Avenue and Route 2, south of the site. The trip distribution patterns are shown in Figure 6.

The Project-generated trips were assigned to the study area roadways and intersections based on the trip distribution patterns and are presented in Figure 7 for the weekday morning and evening peak hours. The Project-generated trips were then added to the 2025 No-Build conditions traffic volumes to develop the 2025 Build conditions traffic volumes and are shown in Figure 8.



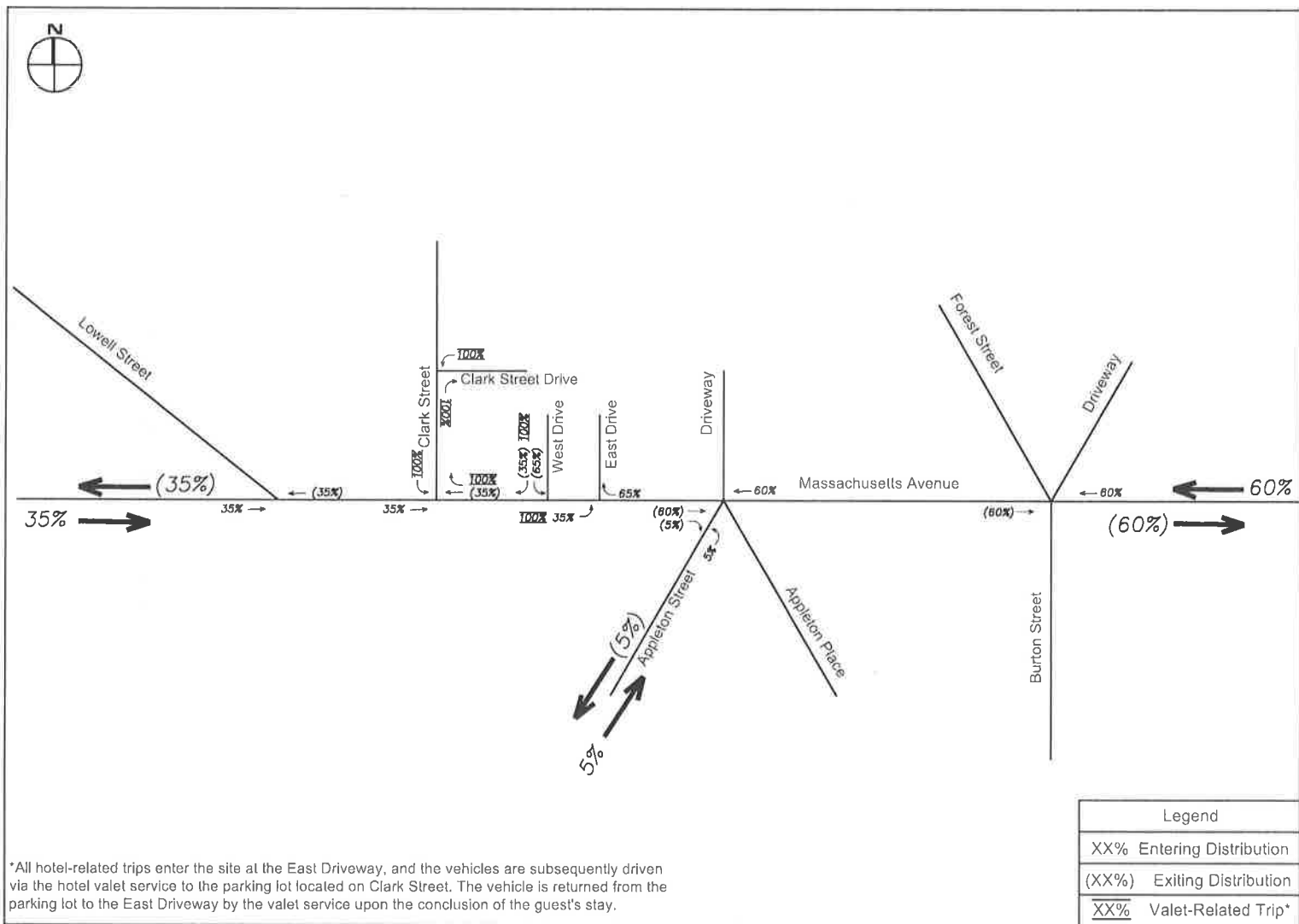


Figure 6  
 Project Trip Distribution Map  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



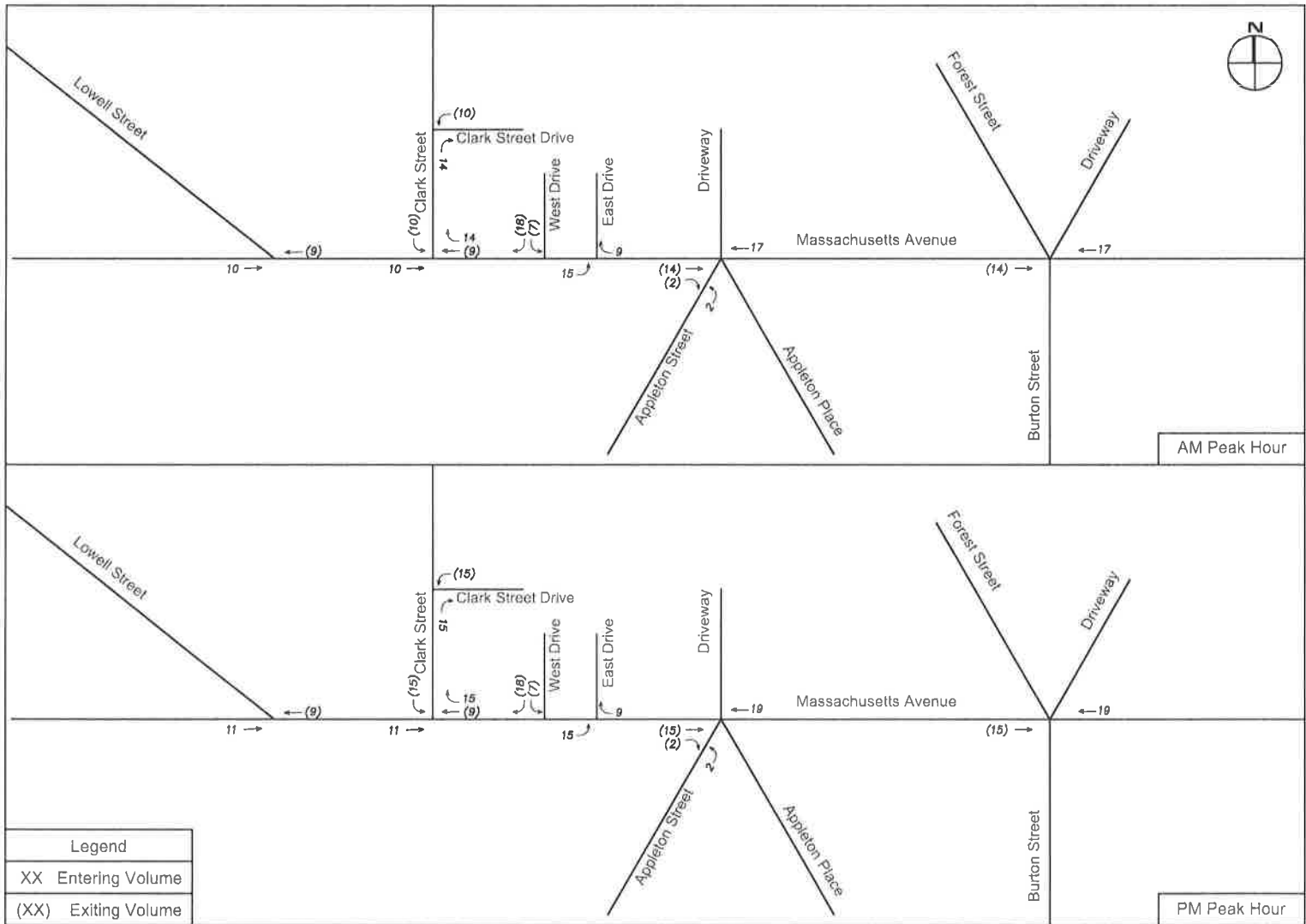


Figure 7  
 2025 Project Generated Peak Hour Traffic Volumes  
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
 Arlington, MA



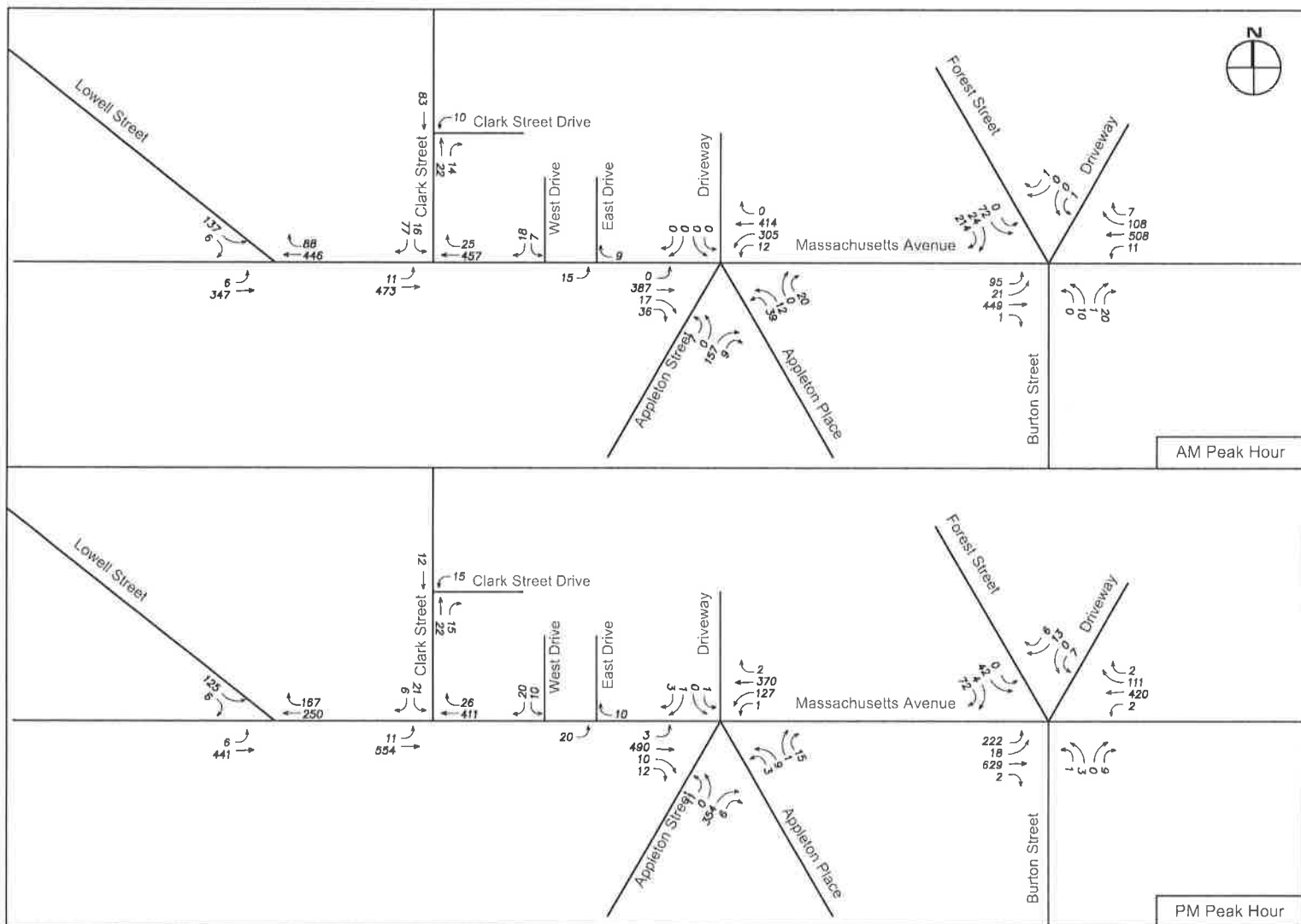


Figure 8  
2025 Build Conditions Peak Hour Traffic Volumes  
1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study  
Arlington, MA



## 4 Traffic Operations Analysis

To assess the quality of traffic flow, capacity analyses were conducted at the study area intersections for the weekday morning and weekday evening peak hours. Analyses were conducted using the Synchro 10 traffic analysis software, which is based on methods defined in the Highway Capacity Manual (HCM) 2010<sup>1</sup>. Operations analyses were conducted for the 2020 Existing, 2025 No-Build, and 2025 Build conditions.

A primary result of capacity analyses is the assignment of a Level of Service (LOS) to traffic facilities under various traffic flow conditions. Six Levels of Services are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions with little delay and LOS F representing the worst, with the most delay.

The existing conditions operations analysis was calibrated to reflect traffic conditions observed in the field. Typically, the Synchro 10 and HCM methodologies use default values for various inputs, such as critical gaps. The critical gap is the minimum amount of time between consecutive vehicles traveling along a main line, such as Massachusetts Avenue, for a motorist along the side street to comfortably make a turning or crossing maneuver. The default values are typically higher than actual field observations. Some of these factors were reduced to better reflect actual operations and observed delays and queues.

The average delay per vehicle approaching an intersection is used to quantify the LOS at a particular intersection. The LOS designations are defined below in Table 4. Average delay measures the mean stopped delay experienced by vehicles entering an intersection during the analysis period. Average delay is measured for each individual turning movement that must yield the right of way. The vehicular queues and volume-to-capacity ratios (v/c) are also presented as part of the traffic operations analysis. The 95<sup>th</sup> percentile queues represent the maximum back of queue during the peak hour. The v/c ratios reflect the percentage of the overall operating capacity of a movement that the traffic volumes consume. A v/c ratio below 1.0 indicates that there is additional capacity that could be used if traffic volumes increase.

**Table 4 Level of Service Designations**

Level of Service	Average Delay (seconds/vehicle)	
	Unsignalized	Signalized
A	0.0 - 10.0	0.0 - 10.0
B	>10.0 - 15.0	>10.0 - 20.0
C	>15.0 - 25.0	>20.0 - 35.0
D	>25.0 - 35.0	>35.0 - 55.0
E	>35.0 - 50.0	>55.0 - 80.0
F	>50.0	>80.0

Source: Transportation Research Board, *Highway Capacity Manual*, National Research Council, 2010.

Tables 5 and 6 show the operating conditions of the study intersections during the weekday morning and weekday evening peak hours for the three scenarios analyzed.

<sup>1</sup> *Highway Capacity Manual* 2010; Transportation Research Board; Washington, DC; 2010.



**Table 5 Traffic Operations Analysis Summary – Weekday Morning Peak Hour**

	2020 Existing Conditions				2025 No-Build Conditions				2025 Build Conditions			
	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue
<b>UNSIGNALIZED INTERSECTIONS</b>												
<b>Massachusetts Avenue/Lowell Street</b>												
Massachusetts Avenue EB L/T	0.2	A	0.01	1	0.3	A	0.01	1	0.3	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.33	0	0.0	A	0.37	0	0.0	A	0.37	0
Lowell Street SB L/R	17.9	C	0.34	36	20.9	C	0.41	49	21.6	C	0.42	51
<b>Massachusetts Avenue/Clark Street</b>												
Massachusetts Avenue EB L/T	0.4	A	0.01	1	0.4	A	0.02	1	0.4	A	0.02	1
Massachusetts Avenue WB T/R	0.00	A	0.29	0	0.0	A	0.32	0	0.0	A	0.34	0
Clark Street SB L/R	11.6	B	0.13	11	12.3	B	0.16	14	13.5	B	0.19	18
<b>Massachusetts Avenue/Appleton Street/ Appleton Place/Commercial Driveway</b>												
Massachusetts Avenue EB L/T/R	0.0	A	0.00	0	0.0	A	0.00	0	0.0	A	0.00	0
Massachusetts Avenue WB L/T/R	9.0	A	0.40	49	10.6	B	0.46	62	11.0	B	0.47	64
Appleton Street NB L/T/R	21.2	C	0.49	66	26.2	D	0.58	89	29.5	D	0.63	102
Appleton Place NB L/T/R	17.4	C	0.37	42	19.5	C	0.43	53	19.6	C	0.43	54
Driveway SB L/T/R	47.5	E	0.01	1	>50.0	F	0.01	1	>50.0	F	0.02	1
<b>Massachusetts Avenue/Forest Street/ Burton Street/Commercial Driveway</b>												
Massachusetts Avenue EB L/T/R	3.1	A	0.12	10	3.4	A	0.13	12	3.4	A	0.14	12
Massachusetts Avenue WB L/T/R	0.3	A	0.01	1	0.3	A	0.01	1	0.3	A	0.01	1
Burton Street NB L/T/R	15.7	C	0.16	14	17.6	C	0.20	18	18.1	C	0.21	19
Forest Street SB L/T/R	>50.0	F	0.88	214	>50.0	F	>1.00	354	>50.0	F	>1.00	374
Driveway SB L/T/R	13.6	B	0.02	1	14.6	B	0.02	2	14.9	B	0.02	2
<b>Massachusetts Avenue/West Driveway</b>												
Massachusetts Avenue EB T									0.0	A	0.38	0
Massachusetts Avenue WB T									0.0	A	0.32	0
West Driveway SB L/R									13.2	B	0.07	6
<b>Massachusetts Avenue/East Driveway</b>												
Massachusetts Avenue EB L/T									0.7	A	0.03	2
Massachusetts Avenue WB T/R									0.0	A	0.33	0
<b>Clark Street/Driveway</b>												
Clark Street NB T/R									0.0	A	0.02	0
Clark Street SB L/T									0.0	A	0.00	0
Driveway WB L/R									9.2	A	0.02	1



**Table 6 Traffic Operations Analysis Summary – Weekday Evening Peak Hour**

	2020 Existing Conditions				2025 No-Build Conditions				2025 Build Conditions			
	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue
<b>UNSIGNALIZED INTERSECTIONS</b>												
<b>Massachusetts Avenue/Lowell Street</b>												
Massachusetts Avenue EB L/T	0.2	A	0.01	0	0.2	A	0.01	1	0.2	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.26	0	0.0	A	0.29	0	0.0	A	0.29	0
Lowell Street SB L/R	16.1	C	0.28	29	18.6	C	0.35	39	19.1	C	0.36	40
<b>Massachusetts Avenue/Clark Street</b>												
Massachusetts Avenue EB L/T	0.3	A	0.01	1	0.4	A	0.01	1	0.4	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.26	0	0.0	A	0.29	0	0.0	A	0.31	0
Clark Street SB L/R	13.0	B	0.02	2	14.0	B	0.03	3	16.9	C	0.09	7
<b>Massachusetts Avenue/Appleton Street/ Appleton Place/Commercial Driveway</b>												
Massachusetts Avenue EB L/T/R	0.1	A	0.00	0	0.1	A	0.00	0	0.1	A	0.00	0
Massachusetts Avenue WB L/T/R	3.3	A	0.12	10	3.6	A	0.14	12	3.6	A	0.14	12
Appleton Street NB L/T/R	17.7	C	0.58	95	22.8	C	0.69	138	24.0	C	0.71	145
Appleton Place NB L/T/R	10.0	B	0.05	4	10.3	B	0.06	5	10.3	B	0.06	5
Driveway SB L/T/R	18.3	C	0.03	2	23.0	C	0.04	3	24.3	C	0.05	4
<b>Massachusetts Avenue/Forest Street/ Burton Street/Commercial Driveway</b>												
Massachusetts Avenue EB L/T/R	4.9	A	0.22	21	5.7	A	0.25	25	5.9	A	0.25	25
Massachusetts Avenue WB L/T/R	0.1	A	0.00	0	0.1	A	0.00	0	0.1	A	0.00	0
Burton Street NB L/T/R	17.1	C	0.06	5	19.1	C	0.08	6	19.7	C	0.08	7
Forest Street SB L/T/R	23.1	C	0.40	47	31.4	D	0.53	72	33.7	D	0.55	76
Driveway SB L/T/R	11.9	B	0.06	5	12.9	B	0.08	7	12.9	B	0.08	7
<b>Massachusetts Avenue/West Driveway</b>												
Massachusetts Avenue EB T									0.0	A	0.45	0
Massachusetts Avenue WB T									0.0	A	0.29	0
West Driveway SB L/R									13.3	B	0.07	6
<b>Massachusetts Avenue/East Driveway</b>												
Massachusetts Avenue EB L/T									0.7	A	0.03	2
Massachusetts Avenue WB T/R									0.0	A	0.30	0
<b>Clark Street/Driveway</b>												
Clark Street NB T/R									0.0	A	0.02	0
Clark Street SB L/T									0.0	A	0.00	0
Driveway WB L/R									8.8	A	0.02	1



As shown in Tables 5 and 6, most movements within the study area operate at LOS D or better during the weekday morning peak hour and LOS C or better during the weekday evening peak hour. The Forest Street southbound approach to Massachusetts Avenue operates at LOS F during the weekday morning peak hour and is expected to operate at LOS D during the weekday evening peak hour under the future conditions.

Movements at Clark Street and Lowell Street are expected to operate at LOS C or better during the peak periods, with minimal queuing. These movements also operate within the available capacity of the intersection.

The Project is not expected to have any significant impact on delays of queuing throughout the study area. The Project will increase activity along the site frontage with Massachusetts Avenue and at the Clark Street intersection but will not require additional capacity for safe and efficient operations.

Based on the operations analysis, the existing transportation infrastructure has sufficient capacity to accommodate the Project and no mitigation is necessary.



## 5 Summary and Conclusions

This Traffic Impact and Access Study has been prepared for the proposed hotel to be located at 1207-1211 Massachusetts Avenue in Arlington, Massachusetts. The Project will consist of the demolition of the existing uses on the site and the construction of a 50-key hotel with ancillary restaurant uses. Access to the site will be provided by a valet-operated pick-up/drop-off area along Massachusetts Avenue and by a driveway that will serve a 24-space tandem-style parking lot off of Clark Street.

Using standard industry practices, this Traffic Impact and Access Study has reviewed existing traffic and roadway conditions in the vicinity of the site; identified specific developments and determined background traffic growth for the study area; and estimated and distributed the additional vehicular traffic that will be generated by the Project.

This study has shown that:

- The proposed Project is expected to generate approximately 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday afternoon peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.
- Compared to the No-Build condition, the study area intersections serving the Project are expected to operate at the same LOS with the addition of the expected Project-generated traffic. No additional mitigation or capacity enhancements are necessary at the study intersections or on the surrounding transportation infrastructure to accommodate the Project.
- Both required stopping sight distance and recommended intersection sight distances are met at both driveway locations.
- There are safety issues at the intersection of Massachusetts Avenue at Appleton Street and Appleton Place based on the MassDOT crash data and a recent fatal collision involving a bicyclist.

In conclusion, it is the opinion of BSC Group that the vehicle trips generated by the Project can be accommodated at the study area intersections and roadways without the need for additional mitigation. Further investigation into the safety issues throughout the study area should be considered by the Town of Arlington.



# Technical Appendix

**Traffic Count Data**

**Motor Vehicle Crash Data**

**Traffic Operations Analysis**



## Traffic Count Data





Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Tuesday, February 4, 2020  
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	5	2	0	7	12:00 PM	119	6	0	125
12:15 AM	6	1	0	7	12:15 PM	111	6	0	117
12:30 AM	0	2	2	4	12:30 PM	135	6	0	141
12:45 AM	4	2	0	6	12:45 PM	45	6	0	51
1:00 AM	1	1	0	2	1:00 PM	1	1	0	2
1:15 AM	4	0	0	4	1:15 PM	2	0	0	2
1:30 AM	0	0	0	0	1:30 PM	1	4	0	5
1:45 AM	1	1	0	2	1:45 PM	0	2	0	2
2:00 AM	1	0	0	1	2:00 PM	0	2	0	2
2:15 AM	2	0	0	2	2:15 PM	0	3	0	3
2:30 AM	0	0	0	0	2:30 PM	15	5	0	20
2:45 AM	1	1	0	2	2:45 PM	105	4	0	109
3:00 AM	0	0	0	0	3:00 PM	114	2	1	117
3:15 AM	0	0	0	0	3:15 PM	133	2	0	135
3:30 AM	2	0	0	2	3:30 PM	123	6	0	129
3:45 AM	3	1	1	5	3:45 PM	125	2	1	128
4:00 AM	1	0	0	1	4:00 PM	124	4	0	128
4:15 AM	3	0	1	4	4:15 PM	118	3	0	121
4:30 AM	9	1	0	10	4:30 PM	128	1	1	130
4:45 AM	4	1	0	5	4:45 PM	144	3	0	147
5:00 AM	17	1	0	18	5:00 PM	124	3	0	127
5:15 AM	16	3	0	19	5:15 PM	148	3	0	151
5:30 AM	15	1	0	16	5:30 PM	160	2	0	162
5:45 AM	17	5	0	22	5:45 PM	143	2	0	145
6:00 AM	30	2	0	32	6:00 PM	131	3	0	134
6:15 AM	55	3	2	60	6:15 PM	133	2	0	135
6:30 AM	82	4	2	88	6:30 PM	138	1	0	139
6:45 AM	102	6	0	108	6:45 PM	115	4	0	119
7:00 AM	101	11	2	114	7:00 PM	100	4	0	104
7:15 AM	110	4	2	116	7:15 PM	84	1	0	85
7:30 AM	110	11	1	122	7:30 PM	75	3	0	78
7:45 AM	131	10	1	142	7:45 PM	61	1	0	62
8:00 AM	102	7	0	109	8:00 PM	66	4	0	70
8:15 AM	99	9	1	109	8:15 PM	52	1	0	53
8:30 AM	116	6	0	122	8:30 PM	59	2	0	61
8:45 AM	113	7	0	120	8:45 PM	44	4	0	48
9:00 AM	90	8	0	98	9:00 PM	44	3	0	47
9:15 AM	116	5	0	121	9:15 PM	40	4	0	44
9:30 AM	87	6	1	94	9:30 PM	30	3	0	33
9:45 AM	106	5	0	111	9:45 PM	24	0	0	24
10:00 AM	89	8	0	97	10:00 PM	23	4	0	27
10:15 AM	73	5	1	79	10:15 PM	26	2	0	28
10:30 AM	108	14	1	123	10:30 PM	20	1	0	21
10:45 AM	90	8	0	98	10:45 PM	14	2	0	16
11:00 AM	84	4	0	88	11:00 PM	9	2	0	11
11:15 AM	97	9	0	106	11:15 PM	14	1	0	15
11:30 AM	85	7	0	92	11:30 PM	6	3	0	9
11:45 AM	89	6	1	96	11:45 PM	6	2	0	8

AM Total 2377 188 19 2584  
Percentage 91.99% 7.28% 0.74%

AM Peak 7:15 AM 7:30 AM 6:15 AM 7:00 AM  
Volume 453 37 6 494

PM Total 3432 135 3 3570  
Percentage 96.13% 3.78% 0.08%

PM Peak 5:15 PM 12:00 PM 3:00 PM 5:15 PM  
Volume 582 24 2 592

Day Total 5809 323 22 6154  
Percentage 94.39% 5.25% 0.36%



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Wednesday, February 5, 2020  
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	2	0	2	12:00 PM	107	5	0	112
12:15 AM	7	1	0	8	12:15 PM	123	5	1	129
12:30 AM	2	2	0	4	12:30 PM	128	5	0	133
12:45 AM	3	2	0	5	12:45 PM	116	5	0	121
1:00 AM	2	1	0	3	1:00 PM	102	7	0	109
1:15 AM	2	0	0	2	1:15 PM	103	6	1	110
1:30 AM	0	0	0	0	1:30 PM	100	9	0	109
1:45 AM	1	0	0	1	1:45 PM	106	4	0	110
2:00 AM	1	0	0	1	2:00 PM	90	6	0	96
2:15 AM	1	0	0	1	2:15 PM	103	7	0	110
2:30 AM	1	0	0	1	2:30 PM	95	5	0	100
2:45 AM	1	0	0	1	2:45 PM	103	7	0	110
3:00 AM	1	0	0	1	3:00 PM	128	7	0	135
3:15 AM	0	0	0	0	3:15 PM	134	8	0	142
3:30 AM	2	2	0	4	3:30 PM	106	7	0	113
3:45 AM	1	0	1	2	3:45 PM	118	5	0	123
4:00 AM	2	0	0	2	4:00 PM	119	9	2	130
4:15 AM	7	0	0	7	4:15 PM	129	6	0	135
4:30 AM	13	1	0	14	4:30 PM	129	6	0	135
4:45 AM	2	1	0	3	4:45 PM	124	2	0	126
5:00 AM	9	3	0	12	5:00 PM	150	3	0	153
5:15 AM	16	2	1	19	5:15 PM	123	2	0	125
5:30 AM	14	1	0	15	5:30 PM	155	2	0	157
5:45 AM	16	3	0	19	5:45 PM	148	2	0	150
6:00 AM	19	3	0	22	6:00 PM	146	4	0	150
6:15 AM	55	2	0	57	6:15 PM	126	5	0	131
6:30 AM	73	6	0	79	6:30 PM	111	3	0	114
6:45 AM	96	18	0	114	6:45 PM	113	7	0	120
7:00 AM	111	9	1	121	7:00 PM	93	3	0	96
7:15 AM	114	5	0	119	7:15 PM	99	1	0	100
7:30 AM	113	4	0	117	7:30 PM	71	5	0	76
7:45 AM	113	4	1	118	7:45 PM	56	2	0	58
8:00 AM	98	5	1	104	8:00 PM	73	4	0	77
8:15 AM	130	4	0	134	8:15 PM	60	3	0	63
8:30 AM	128	4	1	133	8:30 PM	65	1	0	66
8:45 AM	104	6	1	111	8:45 PM	53	4	0	57
9:00 AM	109	2	0	111	9:00 PM	48	2	0	50
9:15 AM	116	8	1	125	9:15 PM	33	2	0	35
9:30 AM	102	6	0	108	9:30 PM	22	4	0	26
9:45 AM	101	8	0	109	9:45 PM	24	1	0	25
10:00 AM	99	5	2	106	10:00 PM	18	4	0	22
10:15 AM	71	7	0	78	10:15 PM	24	1	0	25
10:30 AM	102	5	0	107	10:30 PM	13	0	0	13
10:45 AM	99	4	0	103	10:45 PM	17	4	0	21
11:00 AM	77	5	0	82	11:00 PM	10	2	0	12
11:15 AM	106	3	0	109	11:15 PM	5	1	0	6
11:30 AM	121	4	0	125	11:30 PM	8	3	0	11
11:45 AM	103	5	0	108	11:45 PM	3	1	1	5

AM Total 2464 153 10 2627  
Percentage 93.80% 5.82% 0.38%  
AM Peak 8:15 AM 6:30 AM 7:45 AM 7:45 AM  
Volume 471 38 3 489

PM Total 4130 197 5 4332  
Percentage 95.34% 4.55% 0.12%  
PM Peak 5:00 PM 2:45 PM 3:15 PM 5:30 PM  
Volume 576 29 2 588

Day Total 6594 350 15 6959  
Percentage 94.75% 5.03% 0.22%



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Tuesday, February 4, 2020  
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	6	2	0	8	12:00 PM	112	6	1	119
12:15 AM	7	1	0	8	12:15 PM	106	5	0	111
12:30 AM	3	1	0	4	12:30 PM	103	7	0	110
12:45 AM	2	2	0	4	12:45 PM	93	6	0	99
1:00 AM	2	1	0	3	1:00 PM	4	2	1	7
1:15 AM	0	0	1	1	1:15 PM	11	6	0	17
1:30 AM	0	2	0	2	1:30 PM	8	2	1	11
1:45 AM	0	0	0	0	1:45 PM	8	3	0	11
2:00 AM	2	0	0	2	2:00 PM	6	3	1	10
2:15 AM	0	0	0	0	2:15 PM	5	5	0	10
2:30 AM	1	0	0	1	2:30 PM	20	1	0	21
2:45 AM	0	0	0	0	2:45 PM	108	8	1	117
3:00 AM	0	0	0	0	3:00 PM	116	4	0	120
3:15 AM	1	0	0	1	3:15 PM	124	6	0	130
3:30 AM	1	0	1	2	3:30 PM	97	3	0	100
3:45 AM	1	0	0	1	3:45 PM	116	5	0	121
4:00 AM	1	0	0	1	4:00 PM	117	3	0	120
4:15 AM	3	0	0	3	4:15 PM	96	2	0	98
4:30 AM	7	1	0	8	4:30 PM	109	3	0	112
4:45 AM	9	0	0	9	4:45 PM	112	2	0	114
5:00 AM	10	4	0	14	5:00 PM	113	7	1	121
5:15 AM	17	3	0	20	5:15 PM	98	1	0	99
5:30 AM	22	1	1	24	5:30 PM	98	1	0	99
5:45 AM	28	3	0	31	5:45 PM	122	3	0	125
6:00 AM	29	1	0	30	6:00 PM	123	1	0	124
6:15 AM	32	5	3	40	6:15 PM	84	3	0	87
6:30 AM	38	1	0	39	6:30 PM	103	3	1	107
6:45 AM	69	6	0	75	6:45 PM	84	4	0	88
7:00 AM	85	11	0	96	7:00 PM	97	0	0	97
7:15 AM	74	7	0	81	7:15 PM	77	2	0	79
7:30 AM	130	7	0	137	7:30 PM	88	3	1	92
7:45 AM	139	5	1	145	7:45 PM	75	0	0	75
8:00 AM	145	7	0	152	8:00 PM	72	4	0	76
8:15 AM	100	3	1	104	8:15 PM	56	1	0	57
8:30 AM	97	9	0	106	8:30 PM	71	5	0	76
8:45 AM	124	7	1	132	8:45 PM	43	2	0	45
9:00 AM	95	8	0	103	9:00 PM	65	2	0	67
9:15 AM	78	8	1	87	9:15 PM	42	3	0	45
9:30 AM	91	3	0	94	9:30 PM	38	2	0	40
9:45 AM	98	10	1	109	9:45 PM	27	2	0	29
10:00 AM	88	3	1	92	10:00 PM	24	4	0	28
10:15 AM	90	7	0	97	10:15 PM	20	1	0	21
10:30 AM	75	4	0	79	10:30 PM	23	1	0	24
10:45 AM	90	11	0	101	10:45 PM	16	1	0	17
11:00 AM	93	10	1	104	11:00 PM	14	1	0	15
11:15 AM	82	4	1	87	11:15 PM	7	2	0	9
11:30 AM	107	3	0	110	11:30 PM	5	1	0	6
11:45 AM	106	5	2	113	11:45 PM	7	2	0	9

AM Total 2278 166 16 2460  
Percentage 92.60% 6.75% 0.65%  
AM Peak 7:30 AM 8:30 AM 5:30 AM 7:30 AM  
Volume 514 32 4 538

PM Total 3163 144 8 3315  
Percentage 95.41% 4.34% 0.24%  
PM Peak 3:15 PM 12:00 PM 12:45 PM 3:00 PM  
Volume 454 24 2 471

Day Total 5441 310 24 5775  
Percentage 94.22% 5.37% 0.42%



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Wednesday, February 5, 2020  
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	4	2	0	6	12:00 PM	99	8	0	107
12:15 AM	2	1	0	3	12:15 PM	125	5	1	131
12:30 AM	2	2	1	5	12:30 PM	100	4	1	105
12:45 AM	1	1	0	2	12:45 PM	109	9	0	118
1:00 AM	4	1	0	5	1:00 PM	105	4	0	109
1:15 AM	2	0	0	2	1:15 PM	106	5	0	111
1:30 AM	1	0	0	1	1:30 PM	113	10	0	123
1:45 AM	2	1	0	3	1:45 PM	95	5	0	100
2:00 AM	0	0	0	0	2:00 PM	113	5	0	118
2:15 AM	1	0	0	1	2:15 PM	103	10	0	113
2:30 AM	1	0	0	1	2:30 PM	141	2	0	143
2:45 AM	0	0	0	0	2:45 PM	130	7	0	137
3:00 AM	1	0	0	1	3:00 PM	129	12	0	141
3:15 AM	2	0	0	2	3:15 PM	113	6	2	121
3:30 AM	1	0	0	1	3:30 PM	126	6	0	132
3:45 AM	0	0	0	0	3:45 PM	106	8	0	114
4:00 AM	2	0	0	2	4:00 PM	119	1	0	120
4:15 AM	1	0	0	1	4:15 PM	123	5	0	128
4:30 AM	6	1	0	7	4:30 PM	98	5	1	104
4:45 AM	7	1	1	9	4:45 PM	113	1	0	114
5:00 AM	10	3	0	13	5:00 PM	126	5	0	131
5:15 AM	12	1	0	13	5:15 PM	126	2	0	128
5:30 AM	23	1	0	24	5:30 PM	113	4	0	117
5:45 AM	20	2	0	22	5:45 PM	111	3	0	114
6:00 AM	23	4	1	28	6:00 PM	114	2	0	116
6:15 AM	34	5	1	40	6:15 PM	87	6	0	93
6:30 AM	35	3	0	38	6:30 PM	92	7	0	99
6:45 AM	67	11	1	79	6:45 PM	92	4	0	96
7:00 AM	78	3	0	81	7:00 PM	82	2	0	84
7:15 AM	90	7	1	98	7:15 PM	84	2	0	86
7:30 AM	129	5	0	134	7:30 PM	62	5	0	67
7:45 AM	148	5	0	153	7:45 PM	51	1	0	52
8:00 AM	143	1	1	145	8:00 PM	70	3	0	73
8:15 AM	110	5	1	116	8:15 PM	69	3	0	72
8:30 AM	122	4	1	127	8:30 PM	72	2	1	75
8:45 AM	106	5	0	111	8:45 PM	55	2	0	57
9:00 AM	104	12	0	116	9:00 PM	59	2	0	61
9:15 AM	80	12	1	93	9:15 PM	44	4	0	48
9:30 AM	90	7	2	99	9:30 PM	28	1	0	29
9:45 AM	97	8	1	106	9:45 PM	26	3	0	29
10:00 AM	97	2	0	99	10:00 PM	23	2	0	25
10:15 AM	82	7	0	89	10:15 PM	22	1	0	23
10:30 AM	87	3	0	90	10:30 PM	12	1	0	13
10:45 AM	89	4	0	93	10:45 PM	26	2	0	28
11:00 AM	84	8	1	93	11:00 PM	11	1	0	12
11:15 AM	91	5	0	96	11:15 PM	7	2	0	9
11:30 AM	99	4	0	103	11:30 PM	3	2	0	5
11:45 AM	105	5	0	110	11:45 PM	7	2	0	9

AM Total 2295 152 14 2461  
Percentage 93.25% 6.18% 0.57%  
AM Peak 7:30 AM 9:00 AM 9:00 AM 7:30 AM  
Volume 530 39 4 548

PM Total 3940 194 6 4140  
Percentage 95.17% 4.69% 0.14%  
PM Peak 2:30 PM 3:00 PM 12:00 PM 2:30 PM  
Volume 513 32 2 542

Day Total 6235 346 20 6601  
Percentage 94.46% 5.24% 0.30%



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Direction: EB

### Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	7	125	2	112	0	0	0	0	0	0	0	0	0	0	5	119
12:15	7	117	8	129	0	0	0	0	0	0	0	0	0	0	8	123
12:30	4	141	4	133	0	0	0	0	0	0	0	0	0	0	4	137
12:45	6	51	5	121	0	0	0	0	0	0	0	0	0	0	6	86
1:00	2	2	3	109	0	0	0	0	0	0	0	0	0	0	3	56
1:15	4	2	2	110	0	0	0	0	0	0	0	0	0	0	3	56
1:30	0	5	0	109	0	0	0	0	0	0	0	0	0	0	0	57
1:45	2	2	1	110	0	0	0	0	0	0	0	0	0	0	2	56
2:00	1	2	1	96	0	0	0	0	0	0	0	0	0	0	1	49
2:15	2	3	1	110	0	0	0	0	0	0	0	0	0	0	2	57
2:30	0	20	1	100	0	0	0	0	0	0	0	0	0	0	1	60
2:45	2	109	1	110	0	0	0	0	0	0	0	0	0	0	2	110
3:00	0	117	1	135	0	0	0	0	0	0	0	0	0	0	1	126
3:15	0	135	0	142	0	0	0	0	0	0	0	0	0	0	0	139
3:30	2	129	4	113	0	0	0	0	0	0	0	0	0	0	3	121
3:45	5	128	2	123	0	0	0	0	0	0	0	0	0	0	4	126
4:00	1	128	2	130	0	0	0	0	0	0	0	0	0	0	2	129
4:15	4	121	7	135	0	0	0	0	0	0	0	0	0	0	6	128
4:30	10	130	14	135	0	0	0	0	0	0	0	0	0	0	12	133
4:45	5	147	3	126	0	0	0	0	0	0	0	0	0	0	4	137
5:00	18	127	12	153	0	0	0	0	0	0	0	0	0	0	15	140
5:15	19	151	19	125	0	0	0	0	0	0	0	0	0	0	19	138
5:30	16	162	15	157	0	0	0	0	0	0	0	0	0	0	16	160
5:45	22	145	19	150	0	0	0	0	0	0	0	0	0	0	21	148
6:00	32	134	22	150	0	0	0	0	0	0	0	0	0	0	27	142
6:15	60	135	57	131	0	0	0	0	0	0	0	0	0	0	59	133
6:30	88	139	79	114	0	0	0	0	0	0	0	0	0	0	84	127
6:45	108	119	114	120	0	0	0	0	0	0	0	0	0	0	111	120
7:00	114	104	121	96	0	0	0	0	0	0	0	0	0	0	118	100
7:15	116	85	119	100	0	0	0	0	0	0	0	0	0	0	118	93
7:30	122	78	117	76	0	0	0	0	0	0	0	0	0	0	120	77
7:45	142	62	118	58	0	0	0	0	0	0	0	0	0	0	130	60
8:00	109	70	104	77	0	0	0	0	0	0	0	0	0	0	107	74
8:15	109	53	134	63	0	0	0	0	0	0	0	0	0	0	122	58
8:30	122	61	133	66	0	0	0	0	0	0	0	0	0	0	128	64
8:45	120	48	111	57	0	0	0	0	0	0	0	0	0	0	116	53
9:00	98	47	111	50	0	0	0	0	0	0	0	0	0	0	105	49
9:15	121	44	125	35	0	0	0	0	0	0	0	0	0	0	123	40
9:30	94	33	108	26	0	0	0	0	0	0	0	0	0	0	101	30
9:45	111	24	109	25	0	0	0	0	0	0	0	0	0	0	110	25
10:00	97	27	106	22	0	0	0	0	0	0	0	0	0	0	102	25
10:15	79	28	78	25	0	0	0	0	0	0	0	0	0	0	79	27
10:30	123	21	107	13	0	0	0	0	0	0	0	0	0	0	115	17
10:45	98	16	103	21	0	0	0	0	0	0	0	0	0	0	101	19
11:00	88	11	82	12	0	0	0	0	0	0	0	0	0	0	85	12
11:15	106	15	109	6	0	0	0	0	0	0	0	0	0	0	108	11
11:30	92	9	125	11	0	0	0	0	0	0	0	0	0	0	109	10
11:45	96	8	108	5	0	0	0	0	0	0	0	0	0	0	102	7
Total	2584	3570	2627	4332	0	0	0	0	0	0	0	0	0	0	2606	3951
Day Total	6154		6959		0		0		0		0		0		6557	
Peak HR	7:00 AM	5:15 PM	7:45 AM	5:30 PM												
Volume	494	592	489	588											486	587



Massachusetts Avenue  
west of Pine Court  
City, State: Arlington, MA  
Client: Nitsch Eng/B.Zimolka  
Site Code: TBD



PDI File # 207450 ATR A

Direction: WB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	8	119	6	107	0	0	0	0	0	0	0	0	0	0	7	113
12:15	8	111	3	131	0	0	0	0	0	0	0	0	0	0	6	121
12:30	4	110	5	105	0	0	0	0	0	0	0	0	0	0	5	108
12:45	4	99	2	118	0	0	0	0	0	0	0	0	0	0	3	109
1:00	3	7	5	109	0	0	0	0	0	0	0	0	0	0	4	58
1:15	1	17	2	111	0	0	0	0	0	0	0	0	0	0	2	64
1:30	2	11	1	123	0	0	0	0	0	0	0	0	0	0	2	67
1:45	0	11	3	100	0	0	0	0	0	0	0	0	0	0	2	56
2:00	2	10	0	118	0	0	0	0	0	0	0	0	0	0	1	64
2:15	0	10	1	113	0	0	0	0	0	0	0	0	0	0	1	62
2:30	1	21	1	143	0	0	0	0	0	0	0	0	0	0	1	82
2:45	0	117	0	137	0	0	0	0	0	0	0	0	0	0	0	127
3:00	0	120	1	141	0	0	0	0	0	0	0	0	0	0	1	131
3:15	1	130	2	121	0	0	0	0	0	0	0	0	0	0	2	126
3:30	2	100	1	132	0	0	0	0	0	0	0	0	0	0	2	116
3:45	1	121	0	114	0	0	0	0	0	0	0	0	0	0	1	118
4:00	1	120	2	120	0	0	0	0	0	0	0	0	0	0	2	120
4:15	3	98	1	128	0	0	0	0	0	0	0	0	0	0	2	113
4:30	8	112	7	104	0	0	0	0	0	0	0	0	0	0	8	108
4:45	9	114	9	114	0	0	0	0	0	0	0	0	0	0	9	114
5:00	14	121	13	131	0	0	0	0	0	0	0	0	0	0	14	126
5:15	20	99	13	128	0	0	0	0	0	0	0	0	0	0	17	114
5:30	24	99	24	117	0	0	0	0	0	0	0	0	0	0	24	108
5:45	31	125	22	114	0	0	0	0	0	0	0	0	0	0	27	120
6:00	30	124	28	116	0	0	0	0	0	0	0	0	0	0	29	120
6:15	40	87	40	93	0	0	0	0	0	0	0	0	0	0	40	90
6:30	39	107	38	99	0	0	0	0	0	0	0	0	0	0	39	103
6:45	75	88	79	96	0	0	0	0	0	0	0	0	0	0	77	92
7:00	96	97	81	84	0	0	0	0	0	0	0	0	0	0	89	91
7:15	81	79	98	86	0	0	0	0	0	0	0	0	0	0	90	83
7:30	137	92	134	67	0	0	0	0	0	0	0	0	0	0	136	80
7:45	145	75	153	52	0	0	0	0	0	0	0	0	0	0	149	64
8:00	152	76	145	73	0	0	0	0	0	0	0	0	0	0	149	75
8:15	104	57	116	72	0	0	0	0	0	0	0	0	0	0	110	65
8:30	106	76	127	75	0	0	0	0	0	0	0	0	0	0	117	76
8:45	132	45	111	57	0	0	0	0	0	0	0	0	0	0	122	51
9:00	103	67	116	61	0	0	0	0	0	0	0	0	0	0	110	64
9:15	87	45	93	48	0	0	0	0	0	0	0	0	0	0	90	47
9:30	94	40	99	29	0	0	0	0	0	0	0	0	0	0	97	35
9:45	109	29	106	29	0	0	0	0	0	0	0	0	0	0	108	29
10:00	92	28	99	25	0	0	0	0	0	0	0	0	0	0	96	27
10:15	97	21	89	23	0	0	0	0	0	0	0	0	0	0	93	22
10:30	79	24	90	13	0	0	0	0	0	0	0	0	0	0	85	19
10:45	101	17	93	28	0	0	0	0	0	0	0	0	0	0	97	23
11:00	104	15	93	12	0	0	0	0	0	0	0	0	0	0	99	14
11:15	87	9	96	9	0	0	0	0	0	0	0	0	0	0	92	9
11:30	110	6	103	5	0	0	0	0	0	0	0	0	0	0	107	6
11:45	113	9	110	9	0	0	0	0	0	0	0	0	0	0	112	9
Total	2460	3315	2461	4140	0	0	0	0	0	0	0	0	0	0	2461	3728
Day Total	5775		6601		0		0		0		0		0		6188	
Peak HR	7:30 AM	3:00 PM	7:30 AM	2:30 PM												
Volume	538	471	548	542											543	499



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



**Cars and Heavy Vehicles (Combined)**

Class	Car and Heavy Vehicle Counts (per hour)																													
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue									
	from North					from East					from South					from Southwest					from West				Total					
Right	Left	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Left	Thru	Left	U-Turn	Total	Right	Left	Thru	Left		U-Turn	Total			
7:00 AM	0	0	0	0	0	0	72	61	0	0	133	2	0	3	0	8	0	22	0	1	0	23	2	1	83	0	0	86	250	
7:15 AM	0	0	0	0	0	0	72	54	1	0	127	2	0	2	1	0	1	24	0	2	0	27	8	1	95	0	0	102	261	
7:30 AM	0	0	0	0	0	0	71	76	0	0	147	4	0	1	1	0	1	81	0	2	0	84	6	1	84	0	0	95	282	
7:45 AM	0	0	0	0	0	0	88	61	0	0	149	7	0	6	29	0	42	6	31	0	3	0	40	16	7	103	0	0	125	362
Total	0	0	0	0	0	0	303	252	0	0	551	15	0	12	34	0	81	8	108	0	6	0	114	30	14	365	0	0	409	1155
8:00 AM	0	0	0	0	0	0	117	65	4	0	186	4	0	3	4	0	11	0	46	0	1	0	47	4	2	66	0	0	72	316
8:15 AM	0	0	0	0	0	0	73	63	2	0	138	3	0	1	1	0	5	1	37	0	0	0	38	4	1	78	0	0	83	264
8:30 AM	0	0	0	0	0	0	72	51	3	0	126	2	0	0	4	0	6	1	29	0	5	0	35	5	0	84	0	0	89	256
8:45 AM	0	0	0	0	0	0	92	47	3	0	142	0	0	2	1	0	3	0	80	0	2	0	82	1	3	83	1	0	88	265
Total	0	0	0	0	0	0	354	226	12	0	592	9	0	6	10	0	25	2	142	0	8	0	152	14	6	311	1	0	352	1301
Grand Total	0	0	0	0	0	0	657	478	18	0	1153	24	0	18	44	0	88	10	250	0	16	0	276	44	20	676	1	0	741	2258
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	57.0	41.5	1.6	0.0	27.9	0.0	20.9	51.2	0.0	3.6	90.6	0.0	5.8	0.0	5.9	2.7	91.2	0.1	0.0	0.0	0.0	32.8		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	29.1	21.2	0.8	0.0	31.1	1.1	0.0	0.8	2.0	0.0	3.8	0.4	11.1	0.0	0.7	0.0	12.2	2.0	0.9	30.0	0.0	0.0	32.8	
Excluding Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cars	0	0	0	0	0	0	600	465	18	0	1083	24	0	17	41	0	82	9	247	0	15	0	271	43	19	613	1	0	876	2112
% Cars	0.0	0.0	0.0	0.0	0.0	0.0	91.3	97.3	100.0	0.0	95.9	100.0	0.0	94.4	93.2	0.0	95.3	96.0	98.8	0.0	93.8	0.0	98.2	97.7	95.0	90.7	100.0	0.0	91.2	93.6
Excluding Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	0	57	13	0	0	70	0	0	1	3	0	4	1	3	0	1	0	5	1	1	63	0	0	65	144
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	8.7	2.7	0.0	0.0	6.1	0.0	0.0	5.6	6.8	0.0	4.7	10.0	1.2	0.0	6.3	0.0	1.8	2.3	5.0	9.3	0.0	0.0	8.8	6.4
Excluding Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

7:30 AM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total				
	from North					from East					from South					from Southwest					from West									
	Right	Left	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Left	Thru	Left	U-Turn	Total	Right	Left	Thru	Left		U-Turn	Total		
7:30 AM	0	0	0	0	0	0	71	76	0	0	147	4	0	1	1	0	8	1	31	0	2	0	34	6	5	84	0	0	95	282
7:45 AM	0	0	0	0	0	0	80	61	5	0	154	7	0	6	29	0	42	6	31	0	3	0	40	16	7	103	0	0	124	362
8:00 AM	0	0	0	0	0	0	117	65	4	0	186	4	0	3	4	0	11	0	46	0	1	0	47	4	2	66	0	0	72	316
8:15 AM	0	0	0	0	0	0	73	63	2	0	138	3	0	1	1	0	5	1	37	0	0	0	38	4	1	78	0	0	83	264
Total Volume	0	0	0	0	0	0	349	265	11	0	625	18	0	11	35	0	64	8	145	0	6	0	159	30	15	331	0	0	376	1224
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	55.8	42.4	1.8	0.0	28.1	0.0	0.0	17.2	54.7	0.0	11.1	5.0	91.2	0.0	3.8	0.0	8.0	2.0	4.0	33.0	0.0	0.0	36.0	0.845
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.746	0.872	0.550	0.000	0.840	0.643	0.000	0.458	0.302	0.000	0.281	0.233	0.788	0.000	0.500	0.000	0.246	0.469	0.536	0.803	0.000	0.000	0.749	0.845
Cars	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	0	338	1152
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	93.1	97.7	100.0	0.0	95.2	100.0	0.0	100.0	94.3	0.0	96.9	100.0	98.6	0.0	100.0	0.0	98.7	96.7	100.0	88.8	0.0	0.0	89.9	94.1
Heavy Vehicles	0	0	0	0	0	0	24	6	0	0	30	0	0	0	2	0	2	0	2	0	0	0	2	1	0	37	0	0	38	72
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	6.9	2.3	0.0	0.0	4.8	0.0	0.0	0.0	5.7	0.0	3.1	0.0	1.4	0.0	0.0	0.0	1.3	3.3	0.0	11.2	0.0	0.0	10.1	5.9
Cars Excl. Log	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	0	338	1152
Heavy Excl. Log	0	0	0	0	0	0	24	6	0	0	30	0	0	0	2	0	2	0	2	0	0	0	2	1	0	37	0	0	38	72
Total Excl. Log	0	0	0	0	0	0	349	265	11	0	625	18	0	11	35	0	64	8	145	0	6	0	159	30	15	331	0	0	376	1224
Cars Excl. Log	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Excl. Log	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Excl. Log	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



### Cars

Class	Cars																																
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue								
	from North						from East						from South						from Southwest						from West								
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	59	61	0	0	120	2	0	3	2	0	7	0	21	0	1	0	22	2	1	75	0	0	78	222			
7:15 AM	0	0	0	0	0	0	65	51	1	0	117	2	0	1	1	0	4	0	24	0	1	0	25	6	1	87	0	0	94	240			
7:30 AM	0	0	0	0	0	0	63	76	0	0	139	3	0	1	1	0	5	1	30	0	2	0	33	6	5	72	0	0	83	261			
7:45 AM	0	0	0	0	0	0	81	60	5	0	146	7	0	6	27	0	30	6	30	0	3	0	39	15	7	99	0	0	116	341			
Total	0	0	0	0	0	0	268	248	6	0	522	15	0	11	31	0	57	7	105	0	7	0	119	29	14	328	0	0	371	1069			
8:00 AM	0	0	0	0	0	0	111	64	4	0	179	4	0	3	4	0	11	0	46	0	1	0	47	4	2	61	0	0	67	304			
8:15 AM	0	0	0	0	0	0	70	59	7	0	131	3	0	1	1	0	5	1	37	0	0	0	38	4	1	67	0	0	72	246			
8:30 AM	0	0	0	0	0	0	66	49	8	0	118	2	0	0	4	0	6	1	29	0	5	0	35	5	0	80	0	0	85	244			
8:45 AM	0	0	0	0	0	0	85	45	8	0	133	0	0	2	1	0	3	0	30	0	2	0	32	1	2	77	1	0	81	249			
Total	0	0	0	0	0	0	392	277	17	0	561	9	0	6	10	0	25	2	142	0	8	0	152	14	5	285	1	0	305	1043			
Grand Total	0	0	0	0	0	0	600	465	18	0	1083	24	0	17	41	0	82	9	247	0	15	0	271	43	19	613	1	0	676	2112			
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	55.4	42.9	1.7	0.0	29.3	0.0	20.7	50.0	0.0	3.3	91.1	0.0	5.5	0.0	6.4	2.8	90.7	0.1	0.0								
Partial %	0.0	0.0	0.0	0.0	0.0	0.0	28.4	22.0	0.9	0.0	51.3	1.1	0.0	0.8	1.9	0.0	3.9	0.4	11.7	0.0	0.7	0.0	12.6	2.0	0.9	29.0	0.0	0.0	32.0				
Excluding Total							1				889						46						549						632	2112			

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

Time	Driveway							Massachusetts Avenue							Appleton Place							Appleton Street							Massachusetts Avenue							
	from North							from East							from South							from Southwest							from West							Total
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total					
	0	0	0	0	0	0	0	63	76	0	0	139	4	0	1	1	0	6	1	30	0	2	0	33	6	5	72	0	0	83	261					
7:30 AM	0	0	0	0	0	0	0	81	60	5	0	146	7	0	6	27	0	40	6	30 <td>0</td> <td>3</td> <td>0</td> <td>39</td> <td>15</td> <td>7</td> <td>94</td> <td>0</td> <td>0</td> <td>116</td> <td>341</td>	0	3	0	39	15	7	94	0	0	116	341					
7:45 AM	0	0	0	0	0	0	0	111	64	4	0	179	4	0	3	4	0	11	0	46	0	1	0	47	4	2	61	0	0	67	304					
8:00 AM	0	0	0	0	0	0	0	70	59	7	0	131	3	0	1	1	0	5	1	37	0	0	0	38	4	1	67	0	0	72	246					
8:15 AM	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	82	8	143	0	6	0	157	29	15	294	0	0	338	1152					
Total Volume	0	0	0	0	0	0	0	63	76	5	0	139	18	0	11	33	0	82	8	143	0	6	0	157	29	15	294	0	0	338	1152					
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Flow	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.732	0.852	0.550	0.000	0.831	0.643	0.000	0.458	0.306	0.000	0.388	0.333	0.777	0.000	0.300	0.000	0.835	0.653	0.536	0.782	0.000	0.000	0.728	0.845					
Entering Leg	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	82	8	143	0	6	0	157	29	15	294	0	0	338	1152					
Exiting Leg	0	0	0	0	0	0	0				0	455				34								321						342	1152					
Total							0					1050						96						478						680	2304					



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



### Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

Class	Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)																											
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue							Total
	from North					from East					from South					from Southwest					from West							
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	13	0	0	0	13	0	0	0	1	0	1	0	0	1	0	0	0	0	0	23	
7:15 AM	0	0	0	0	0	0	0	7	3	0	0	10	0	0	1	0	0	1	0	1	0	2	0	0	0	0	21	
7:30 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	0	0	12	0	21	
7:45 AM	0	0	0	0	0	0	0	7	1	0	0	8	0	0	0	0	0	1	0	0	0	1	0	0	0	0	21	
Total	0	0	0	0	0	0	0	35	4	0	0	39	0	0	1	3	0	4	1	3	0	5	1	0	37	0	86	
8:00 AM	0	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	5	0	0	12	
8:15 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	
8:30 AM	0	0	0	0	0	0	0	6	2	0	0	8	0	0	0	0	0	0	0	0	0	0	0	4	0	0	12	
8:45 AM	0	0	0	0	0	0	0	7	2	0	0	9	0	0	0	0	0	0	0	0	0	0	1	2	0	0	16	
Total	0	0	0	0	0	0	0	22	5	0	0	27	0	0	0	0	0	0	0	0	0	0	1	28	0	0	58	
Grand Total	0	0	0	0	0	0	0	57	13	0	0	70	0	0	1	3	0	4	1	3	0	5	1	1	63	0	0	144
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.4	18.6	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	20.0	60.0	0.0	20.0	0.0	1.5	1.5	96.9	0.0	0.0	49.1
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.6	8.0	0.0	0.0	47.6	0.0	0.0	0.7	2.1	0.0	0.7	2.1	0.0	0.7	0.0	1.5	0.7	63.8	0.0	0.0	49.1
Exiting Leg Total	0	0	0	0	0	0	0	39.6	8.0	0.0	0.0	47.6	0	0	0	0	0	0	0	0	0	1.5	0.7	0.7	63.8	0.0	0.0	144
Buses	0	0	0	0	0	0	0	24	0	0	0	24	0	0	0	0	0	0	0	0	0	0	1	0	20	0	0	48
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.1	0.0	0.0	0.0	34.3	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	100.0	0.0	31.7	0.0	0.0	33.3
Exiting Leg Total	0	0	0	0	0	0	0	30	12	0	0	42	0	0	1	0	1	1	1	0	5	0	1	35	0	0	84	
Single-Unit Trucks	0	0	0	0	0	0	0	52.6	92.3	0.0	0.0	144.9	0	0	100.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	55.8	0.0	0.0	56.8	
% Single-Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.4	92.3	0.0	0.0	60.0	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	84.1	0.0	0.0	84.1	
Exiting Leg Total	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	8	0	0	12	
Articulated Trucks	0	0	0	0	0	0	0	5.3	7.7	0.0	0.0	13.0	0	0	0	0	0	0	0	0	0	0	0	0	12.7	0.0	0.0	25.7
% Articulated Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	7.7	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0	8.3
Exiting Leg Total	0	0	0	0	0	0	0	8	8	0	0	16	0	0	0	0	0	0	0	0	0	0	0	20.7	0.0	0.0	12	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total			
	from North					from East					from South					from Southwest					from West								
	Right	Left	Thru	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Left	Thru	U-Turn	Total	Right	Thru	Left	U-Turn	Total				
7:00 AM	0	0	0	0	0	0	13	0	0	13	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	8	23		
7:15 AM	0	0	0	0	0	0	7	3	0	10	0	0	1	0	0	1	1	0	0	1	0	2	0	0	0	21			
7:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	1	0	0	0	1	0	0	12	21			
7:45 AM	0	0	0	0	0	0	7	1	0	8	0	0	0	2	0	2	0	1	0	0	0	1	0	0	0	10	22		
Total Volume	0	0	0	0	0	0	35	4	0	39	0	0	1	3	0	4	1	1	0	1	0	5	1	0	37	86			
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	80.7	10.3	0.0	0.0	0.0	0.0	25.0	75.0	0.0	1	20.0	60.0	20.0	0.0	0.0	2.8	0.0	97.4	0.0	0.0	49.1		
PHV	0.000	0.000	0.000	0.000	0.000	0.000	0.673	0.333	0.000	0.000	0.000	0.000	0.250	0.375	0.000	0.500	0.250	0.750	0.000	0.250	0.000	0.673	0.250	0.000	0.771	0.000	0.772	0.933	
Buses	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	3	0	0	0	0	0	0	1	0	9	0	10	28	
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	38.5	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	24.3	0.0	0.0	26.3	32.6	
Single Unit Trucks	0	0	0	0	0	0	19	3	0	22	0	0	1	0	1	1	1	3	0	1	0	5	0	0	22	0	22	50	
Single Unit %	0.0	0.0	0.0	0.0	0.0	0.0	54.3	75.0	0.0	56.4	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	59.5	0.0	0.0	57.9	58.1	
Articulated Trucks	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8	
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	2.9	25.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	15.6	9.3	
Buses	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	3	0	0	0	0	0	1	0	9	0	0	10	28	
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	38.5	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	24.3	0.0	0.0	26.3	32.6	
Single Unit Trucks	0	0	0	0	0	0	19	3	0	22	0	0	1	0	1	1	1	3	0	1	0	5	0	0	22	0	22	50	
Single Unit %	0.0	0.0	0.0	0.0	0.0	0.0	54.3	75.0	0.0	56.4	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	59.5	0.0	0.0	57.9	58.1	
Articulated Trucks	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8	
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	2.9	25.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	15.6	9.3	
Total Exiting Leg	0	0	0	0	0	0	39	4	0	43	0	0	1	3	0	4	1	1	0	1	0	5	1	0	37	0	0	38	85
Buses	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	3	0	0	0	0	0	1	0	9	0	0	10	28	
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	42.1	0.0	0.0	34.3	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	31.7	0.0	0.0	33.3	21.5	
Single Unit Trucks	0	0	0	0	0	0	52.6	92.3	0.0	144.9	0	0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	84.1	0.0	0.0	84.1	51.9	28
Single Unit %	0.0	0.0	0.0	0.0	0.0	0.0	93.4	92.3	0.0	60.0	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	84.1	0.0	0.0	84.1	51.9	
Articulated Trucks	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	12	
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	9.5	7.7	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0	8.3	12	
Total Exiting Leg	0	0	0	0	0	0	40	0	0	40	0	0	1	3	0	4	1	1	0	1	0	5	1	0	37	0	0	37	88



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B. Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



### Buses

Class	buses																															
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue							
	from North						from East						from South						from Southwest						from West							
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	3	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	10
7:15 AM	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6
7:30 AM	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9
7:45 AM	0	0	0	0	0	0	3	0	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	10
Total	0	0	0	0	0	0	15	0	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10	28
8:00 AM	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7
8:30 AM	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4
8:45 AM	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	5
Total	0	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	20
Grand Total	0	0	0	0	0	0	24	0	0	0	24	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	21	48
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	95.2
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	6.3	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.8	88
Existing Leg Total	0						0						0						0						0						24	48

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Bear Left	U-Turn	Total	Right	Bear Right	Bear Left	Bear Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
7:00 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	10	
7:15 AM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	
7:30 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9	
7:45 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	4	10	
Total Volume	0	0	0	0	0	0	0	15	0	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	10	28	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	
# of	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.375	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	1.700		
Existing Leg	0	0	0	0	0	0	0	15	0	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	10	28	
Existing Leg	0	0	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	28	
Total	0						0						0						0						0						25	56



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



### Single-Unit Trucks

Class	Driveway										Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West									
	Right	Through	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Through	Thru	Left	U-Turn	Total	Right	Through	Thru	Left	U-Turn	Total	Total					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12					
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	11					
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	11	0	0	11	17					
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5	10					
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	5	0	0	22	0	0	22	50					
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5						
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	12						
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	8						
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	8						
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13	0	0	14	34						
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	1	0	5	0	1	35	0	0	36	84					
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	20.0	60.0	0.0	20.0	0.0	8.0	0.0	2.8	97.2	0.0	0.0							
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	3.2	3.6	4.0	1.2	0.0	8.0	0.0	1.2	41.7	0.0	0.0	42.9						
Ending Leg Total	0						28						2						12						22						84			

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM																																																																	
Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue																																									
from North						from East						from South						from Southwest						from West																																									
Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total																																			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																			
0	0	0	0	0	0	0	3	2	0	0	5	0	0	1	0	1	0	0	1	0	3	0	0	0	0	0	0	0	0	0	0																																		
0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	11	0	0	0	0																																		
0	0	0	0	0	0	0	0	1	0	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5	0	0	0	0																																		
Total Volume						0						19						3						0						22						0						5						22						50											
% Approach Total						0.0						86.4						13.6						0.0						0.0						20.0						40.0						20.0						0.0						0.0					
Flow						0.000						0.000						0.000						0.000						0.000						0.000						0.000						0.000						0.000						0.000					
Entering Leg						0						0						19						3						0						22						0						22						50											
Total						0						0						47						3						5						48						100																							



PDI File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



### Articulated Trucks

Class	Articulated Trucks																																					
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue													
	from North						from East						from South						from Southwest						from West													
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total							
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3						
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1						
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1						
Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6						
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
8:15 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2						
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2						
Total	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4						
Grand Total	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12						
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0						
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	8.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	0.0						
Existing reg. total	0						0						0						0						1						3						1	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

Peak Hour Analyses from 07:00 AM to 09:00 AM begins at:																																							
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue														
	from North						from East						from South						from Southwest						from West														
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total												
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4						
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4						
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1						
Total Volume	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8					
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0						
phi	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500							
Existing Reg.	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6						
Existing Reg.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8						
Total	0						0						0						0						0						1						7		16



PDF File #: 207450 A  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



**Bicycles (on Roadway and Crosswalks)**

Class	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue										Total
	from North										from East										from South										from Southwest										from West										
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14		
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Entering Leg Total	0										0										1										0										6										14

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue										
	from North										from East										from South										from Southwest										from West										
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total														
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1															
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1																
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4																
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2																	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8																	
% Approach Sat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8																	
Exiting Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
Total	0										0										1										0										8										8





**PRECISION  
DATA  
INDUSTRIAL, LLC**

46 Morton Street Framingham MA 01702  
Office 508 875 0100 Fax 508 875 0118  
Email [datarequests@public.com](mailto:datarequests@public.com)

[illegible]



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class



### Cars and Heavy Vehicles (Combined)

Class	Cars and Heavy Vehicles (Estimated)																												
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue								
	from North					from East					from South					from Southwest					from West								
	Right	Thru	Left	U-Turn	Total	Right	Thru	From Left	U-Turn	Total	Right	Thru	Left	From East	U-Turn	Total	Right	Thru	From Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total		
4:00 PM	1	0	0	0	1	1	84	39	0	124	2	0	2	2	0	6	1	46	0	3	0	50	1	2	99	1	0	203	284
4:15 PM	1	0	0	0	1	0	71	30	0	101	0	0	1	1	0	2	0	51	0	4	0	55	2	5	101	0	0	108	267
4:30 PM	1	1	0	0	2	0	84	27	2	113	0	0	1	0	0	1	2	57	0	3	0	62	1	5	92	2	0	100	278
4:45 PM	0	0	0	0	0	1	85	47	1	134	2	0	2	2	0	6	1	49	1	3	0	54	3	2	108	0	0	113	307
Total	3	1	0	0	4	2	324	143	3	472	4	0	6	5	0	15	4	203	1	13	0	221	7	14	400	3	0	424	1136
5:00 PM	1	0	0	0	1	1	77	39	1	118	2	0	2	0	0	4	1	74	0	1	0	76	3	0	89	0	0	92	291
5:15 PM	0	1	0	0	1	0	66	20	0	86	5	1	0	1	0	6	2	86	0	2	0	90	1	3	109	1	0	114	298
5:30 PM	1	0	0	1	2	0	78	20	0	98	4	0	4	2	0	10	1	87	0	4	0	92	1	5	108	2	0	116	318
5:45 PM	1	0	0	0	1	1	88	31	0	120	3	0	2	0	0	5	1	70	0	3	0	74	4	1	105	0	0	110	310
Total	3	1	0	1	5	2	309	110	1	422	14	1	6	3	0	24	5	317	0	10	0	332	9	9	411	3	0	422	1217
Grand Total	6	2	0	1	9	4	633	253	4	894	18	1	14	8	0	41	9	520	1	23	0	553	16	23	811	6	0	836	2353
Approach %	66.7	22.2	0.0	11.1	0.0	0.4	70.8	28.3	0.4	0.0	43.9	2.4	34.1	19.5	0.0	0.0	1.6	94.0	0.2	4.2	0.0	0.0	1.9	2.7	94.7	0.7	0.0		
Total %	0.8	0.1	0.0	0.0	0.4	0.2	26.9	10.8	0.2	0.0	0.8	0.0	0.6	0.3	0.0	1.7	0.4	22.1	0.0	1.0	0.0	0.7	0.7	1.0	34.9	0.3	0.0	36.4	2553
Excluding Leg Total					12					1350						36					279						676	2553	
Cars	6	2	0	1	9	4	616	251	4	879	18	1	14	8	0	41	9	512	1	23	0	545	16	23	791	6	0	835	2306
% Cars	100.0	100.0	0.0	100.0	0.0	100.0	97.3	99.2	100.0	0.0	97.9	100.0	100.0	100.0	0.0	100.0	100.0	98.5	100.0	100.0	0.0	98.6	100.0	100.0	97.5	100.0	0.0	97.7	98.0
Excluding Leg Total					12					1322						36					277						659	2306	
Heavy Vehicles	0	0	0	0	0	0	17	2	0	19	0	0	0	0	0	0	0	8	0	0	0	0	0	0	20	0	0	20	47
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.8	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	2.3	2.0
Excluding Leg Total					0					26						0					8						17	47	

### Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue							
	from North					from East					from South					from Southwest					from West							
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
5:00 PM	1	0	0	0	1	1	77	39	1	118	2	0	2	0	4	1	74	0	1	76	3	0	89	0	0	92	291	
5:15 PM	0	1	0	0	1	0	66	20	0	86	5	1	0	1	6	2	86	0	2	90	1	3	109	1	0	114	298	
5:30 PM	1	0	0	1	2	0	78	20	0	98	4	0	4	2	10	1	87	0	4	92	1	5	108	2	0	116	318	
5:45 PM	1	0	0	0	1	1	88	31	0	120	3	0	2	0	5	1	70	0	3	74	4	1	105	0	0	110	310	
Total Volume	3	1	0	1	5	2	309	110	1	422	14	1	8	3	26	5	317	0	10	332	9	9	411	3	0	432	1217	
% Approach Total	60.0	20.0	0.0	20.0	0.0	0.5	73.2	26.1	0.2	0.0	53.8	1.8	30.8	11.5	0.0	1.5	95.5	0.0	1.0	0.0	2.1	2.1	95.1	0.7	0.0			
Hour	0.750	0.250	0.000	0.250	0.000	0.500	0.878	0.705	0.250	0.000	0.879	0.700	0.150	0.175	0.000	0.625	0.911	0.000	0.625	0.000	0.902	0.563	0.450	0.943	0.375	0.000	0.931	0.957
Cars	3	1	0	1	5	2	301	109	1	413	14	1	8	3	26	5	315	0	10	330	9	9	401	3	0	422	1196	
Cars %	100.0	100.0	0.0	100.0	0.0	100.0	97.4	99.1	100.0	0.0	97.9	100.0	100.0	100.0	0.0	100.0	99.4	0.0	100.0	0.0	99.4	100.0	100.0	0.0	0.0	97.7	98.3	
Heavy Vehicles	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	2	0	0	0	0	0	10	0	0	10	21	
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.9	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	2.3	1.7	
Cars Excl Leg	3	1	0	1	5	2	301	109	1	413	14	1	8	3	26	5	315	0	10	330	9	9	401	3	0	422	1196	
Heavy Excl Leg	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	2	0	0	0	0	0	10	0	0	10	21	
Total Excl Leg	3	1	0	1	5	2	309	110	1	422	14	1	8	3	26	5	317	0	10	332	9	9	411	3	0	432	1217	
Cars Excl Leg					6					731					15					122						322	1196	
Heavy Excl Leg					0					17					0					1						8	21	
Total Excl Leg					6					748					15					123						330	1217	



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class



Class	Cars																														
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue										
	from North					from East					from South					from Southwest					from West										
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	Rear Right	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total					
4:00 PM	1	0	0	0	0	1	1	82	38	0	0	121	2	0	2	2	0	44	0	3	0	48	1	2	95	1	0	100	276		
4:15 PM	1	0	0	0	0	1	0	69	30	0	0	99	0	0	1	1	0	50	0	4	0	54	2	5	98	0	0	105	261		
4:30 PM	1	1	0	0	0	2	1	81	27	2	0	110	0	0	1	0	0	1	56	0	3	0	61	1	5	91	2	0	99	273	
4:45 PM	0	0	0	0	0	0	1	83	47	1	0	132	2	0	2	2	0	1	47	1	3	0	52	3	2	105	0	0	110	300	
Total	3	1	0	0	0	4	2	315	142	3	0	463	4	0	6	5	0	15	4	197	1	13	0	215	7	14	390	3	0	414	1110
5:00 PM	1	0	0	0	0	1	1	72	38	1	0	112	2	0	2	0	0	1	74	0	1	0	76	3	0	86	0	0	89	282	
5:15 PM	0	1	0	0	0	1	0	66	20	0	0	86	5	1	0	1	0	1	2	86	0	2	0	90	1	3	106	1	0	111	295
5:30 PM	1	0	0	1	0	2	0	77	20	0	0	97	4	0	4	2	0	30	1	86	0	4	0	91	1	5	105	2	0	113	313
5:45 PM	1	0	0	0	0	1	1	88	31	0	0	119	3	0	2	0	0	5	1	89	0	3	0	93	4	1	104	0	0	109	306
Total	3	1	0	1	0	5	2	301	109	1	0	419	14	1	8	3	0	28	5	315	0	10	0	330	8	9	401	3	0	422	1198
Grand Total	8	2	0	1	0	9	4	616	251	4	0	875	18	1	14	8	0	41	9	512	1	23	0	545	16	23	793	6	0	836	2306
Approach %	66.7	22.2	0.0	11.1	0.0	0.5	70.4	28.7	0.5	0.0	0.0	43.9	2.4	34.1	19.5	0.0	0.0	1.7	93.9	0.2	4.2	0.0	0.0	1.9	2.8	94.6	0.7	0.0	0.0	0.0	
Total %	0.3	0.1	0.0	0.0	0.0	0.4	0.2	26.7	10.8	0.3	0.0	37.9	0.8	0.0	0.6	0.3	0.0	1.8	0.4	22.2	0.0	1.0	0.0	23.8	0.7	1.0	34.8	0.3	0.0	38.5	0.0
Existing Leg. Total						12						1722						18						277						659	2306

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Driveway										Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North					from East					from South						from Southwest						from West												
	Right	Rear Right	Thru	Left	U-Turn	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total								
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total							
5:00 PM	1	0	0	0	0	1	1	72	38	1	0	112	2	0	2	0	0	4	1	74	0	1	0	76	1	0	85	0	0	89	282				
5:15 PM	0	1	0	0	0	1	0	66	20	0	0	86	5	1	0	1	0	7	2	86	0	2	0	90	1	1	106	1	0	111	295				
5:30 PM	1	0	0	1	0	2	0	77	20	0	0	97	4	0	4	2	0	10	1	86	0	4	0	91	1	5	105	2	0	113	313				
5:45 PM	1	0	0	0	0	1	1	88	31	0	0	119	3	0	2	0	0	5	1	69	0	1	0	71	4	1	104	0	0	109	399				
Total volume	3	1	0	1	0	5	2	301	109	1	0	413	14	1	6	2	0	26	5	315	0	10	0	330	7	6	401	3	0	412	1196				
% Approach Total	60.0	20.0	0.0	20.0	0.0	0.5	72.9	26.4	0.2	0.0	0.413	53.8	3.3	1.5	1.5	11.5	0.0	0.0	1.5	83.8	0.0	3.0	0.0	0.0	2.1	2.1	85.0	0.7	0.0	0.0	0.0				
PHF	0.750	0.750	0.000	0.250	0.000	0.625	0.500	0.875	0.717	0.250	0.000	0.875	0.700	0.250	0.500	0.875	0.000	0.000	0.400	0.625	0.916	0.000	0.625	0.000	0.400	0.563	0.450	0.946	0.375	0.000	0.334	0.955			
Existing Leg.	3	1	0	1	0	5	2	301	109	1	0	413	14	1	6	2	0	26	5	315	0	10	0	330	7	6	401	3	0	412	1196				
Existing Leg.						6						731						19						122						372	1196				
Total	11						11						1144																			452	764	2392	





**PRECISION  
DATA**  
INDUSTRIALS, LLC

46 Morton Street, Frammingham, MA 01702  
Office 508-875-0100 Fax 508-875-0118  
Email [datarequests@pdilc.com](mailto:datarequests@pdilc.com)

Class	Heavy Vehicles (Commercial, Public, Single-Unit Trucks, Automobiles)																														
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
	from North						from East						from South						from Southwest						from West						
	Right	Left	Thru	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total								
4:00 PM	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	0	2	0	0	0	2	0	0	3	0	0	3	8
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	4
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	5
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	0	0	3	0	0	3	7
Total	0	0	0	0	0	0	0	9	1	0	0	10	0	0	0	0	0	0	0	6	0	0	0	6	0	0	10	0	0	10	26
5:00 PM	0	0	0	0	0	0	0	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	9
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3	0	0	3	5
5:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	4
Total	0	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	0	2	0	0	0	2	0	0	10	0	0	10	21
Grand Total	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.5	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	4.9	0.0	0.0	40.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0	0.0	17.0	0.0	0.0	47.6	0.0	0.0	82.6	
Exiting (mg total)	0						20						5						2						17						47
Right	0	0	0	0	0	0	0	13	1	0	0	14	0	0	0	0	0	0	0	2	0	0	0	2	0	0	17	0	0	17	33
Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thru	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U-Turn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total				
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3			
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	1	0	0	0	1	0	0	0	1	3			
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	0	0	0	0	2			
5:00 PM	0	0	0	0	0	0	0	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3			
Total Volume	0	0	0	0	0	0	0	12	1	0	0	13	0	0	0	0	0	4	0	0	0	4	0	0	10	0	10	27		
% Right Turn Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.3	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.800	0.250	0.000	0.000	0.542	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.833	0.000	0.000	0.833	0.750		
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8	18		
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.3	0.0	0.0	0.0	76.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	80.0	66.7		
Single Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	75	0	0	0	75	0	0	0	0	2	6		
Single Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	0.0	20.0	11.2		
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3		
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	100.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	22.1		
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	8	0	8	8	18		
Single Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3	0	0	0	3	0	0	2	0	2	6		
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3		
Total Entering Eng.	0	0	0	0	0	0	0	12	1	0	0	13	0	0	0	0	0	4	0	0	0	4	0	0	10	0	10	27		
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	8	0	8	18	18		
Single Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3	0	0	0	3	0</							



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B. Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Class	Buses																															
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue							
	from North						from East						from South						from Southwest						from West							
	Right	Through	Left	U-Turn	Total		Right	Through	Left	U-Turn	Total	Right	Through	Left	Hard Left	U-Turn	Total	Right	Through	Left	Hard Left	U-Turn	Total	Right	Through	Left	U-Turn	Total	Total			
4:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5		
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	9		
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3	
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4	
Total	0	0	0	0	0	0	0	7	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	17	
5:00 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4	
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	1	0	3	
Total	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	2	0	0	0	2	0	0	0	8	0	8	16		
Grand Total	0	0	0	0	0	0	0	13	1	0	0	14	0	0	0	0	0	0	2	0	0	0	2	0	0	0	17	0	17	33		
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.9	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.4	3.0	0.0	0.0	42.4	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	6.1	0.0	0.0	51.5	0.0	0.0	51.5	0.0	0.0	
Existing Leg Total	0						19						0						1						13						33	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Right	Left	Thru	Hard Left	U-Turn	Total	Right	Left	Thru	Left	U-Turn	Total		
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	4	
5:00 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6	
Total Volume	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.750	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.425	0.000	0.000	0.000	0.425	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.000	0.667	0.750	
Existing Leg	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18	
Existing Leg	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	18	
Total	0						18						0						0						18						36	



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Single-Unit Trucks

Class	Single-Unit Trucks																														
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
	from North						from East						from South						from Southwest						from West						
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	1	0	0	1	0	1	8
Total	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	0	0	1	0	0	1	0	1	10
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Grand Total	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	5	0	0	0	5	0	0	2	0	0	2	0	2	10
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	10.0	10.0
Righting % Total	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	0	0	1	0	0	1	0	1	10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Left	Thru	U-Turn	Total	Right	Thru	Left	U-Turn	Total					
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	0	0	0	2	0	0	0	0	2				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1				
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	1	0	3				
Total Volume	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	0	0	1	0	4				
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.625	0.000	0.000	0.250	0.000	0.250	0.887			
Righting %	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	0	0	1	0	4				
Linking %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	0	0	1	0	4				



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



#### Articulated Trucks

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	Rear Left	U-Turn	Total	Rear Right	Rear Left	Thru	Left	U-Turn	Total	Rear Right	Right	Thru	Left	U-Turn	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Grand Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	4
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	0.0	0.0	25.0
Exiting Leg Total	0						2						0						1						1					

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	Rear Left	U-Turn	Total	Rear Right	Rear Left	Thru	Left	U-Turn	Total	Rear Right	Right	Thru	Left	U-Turn	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exit	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.125
Exiting Leg	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
Exiting Leg	0						1						0						1						1					
Total	0						2						0						2						2					



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



**Bicycles (on Roadway and Crosswalks)**

Class	Bicycles (on Redway and Crosswalks)																																			
	Driveway							Massachusetts Avenue							Appleton Place							Appleton Street							Massachusetts Avenue							
	from North							from East							from South							from Southwest							from West							
	North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West	North	South	East	West	Total			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
5:00 PM	0	0	0	0	0	1	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total	0	0	0	0	0	1	1	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Grand Total	0	0	0	0	0	1	1	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Exiting Leg Total	2							2							0							0							0							5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

Peak Hour Analysis from 4:15 PM to 5:00 PM, Approach A																																									
4:15 PM	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street								Massachusetts Avenue								Total
	from North								from East								from South								from Southwest								from West								
	Right	Thru	Left	U-Turn	Other	Other	Other	Other	Right	Thru	Left	U-Turn	Other	Other	Other	Other	Right	Thru	Left	U-Turn	Other	Other	Other	Other	Right	Thru	Left	U-Turn	Other	Other	Other	Other	Right	Thru	Left	U-Turn	Other	Other			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:00 PM	0	0	0	0	0	1	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total Volume	0	0	0	0	0	1	1	2	0	2	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
K Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
Entering Leg	0	0	0	0	0	1	1	2	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Exiting Leg	2								2								0								0								0								5
Total	4								4								0								0								0								12



PDI File #: 207450 AA  
 Location: N: Driveway S: Appleton Place  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Pedestrians

Class:	Pedestrians																																									
	Driveway							Massachusetts Avenue							Appleton Place							Appleton Street							Massachusetts Avenue							Total						
	from North							from East							from South							from Southwest							from West													
	Count	Volume	Flow	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count		Volume	Flow				
4:00 PM	0	0	0	0	0	0	3	1	4	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	3	0	0	0	0	0	4	2	6	0	0	0	0	0	0	0	14	
4:15 PM	0	0	0	0	0	0	3	2	5	0	0	0	0	0	4	1	5	0	0	0	0	0	2	1	3	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	17	
4:30 PM	0	0	0	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5		
4:45 PM	0	0	0	0	0	0	6	2	8	0	0	0	0	0	1	0	1	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	12	
Total	0	0	0	0	0	0	12	6	20	0	0	0	0	0	6	1	7	0	0	0	0	0	6	3	9	0	0	0	0	0	8	3	11	0	0	0	0	0	1	1	48	
5:00 PM	0	0	0	0	0	0	3	0	3	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
5:15 PM	0	0	0	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	1	1	10		
5:30 PM	0	0	0	0	0	0	3	1	4	0	0	0	0	0	1	0	1	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	10		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5			
Total	0	0	0	0	0	0	9	7	16	0	0	0	0	0	4	3	7	0	0	0	0	0	2	2	4	0	0	0	0	0	2	2	4	0	0	0	0	0	0	1	1	32
Grand Total	0	0	0	0	0	0	21	15	36	0	0	0	0	0	10	4	14	0	0	0	0	0	8	5	13	0	0	0	0	0	10	5	15	0	0	0	0	0	2	2	80	
Approach N	0	0	0	0	0	0	58.3	41.7	80	0	0	0	0	0	71.4	28.6	100	0	0	0	0	0	61.5	38.5	100	0	0	0	0	0	66.7	33.3	100	0	0	0	0	0	100	0	0	
Totals	0	0	0	0	0	0	26.3	18.8	41	0	0	0	0	0	12.5	5	17.3	0	0	0	0	0	10	8.25	18.1	0	0	0	0	0	12.5	8.25	18.8	0	0	0	0	0	2.5	2.5	80	
Existing Leg Total	30							14							13							15							2							2		80				

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

Peak Hour Analysis from 04:00 PM to 05:00 PM begins at:																																								
4:00 PM	Driveway							Massachusetts Avenue							Appleton Place							Appleton Street							Massachusetts Avenue							Total				
	from North							from East							from South							from Southwest							from West											
	Count	Volume	Flow	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow	Count	Count	Volume	Flow		
4:00 PM	0	0	0	0	0	0	3	1	4	0	0	0	0	0	1	0	1	0	0	0	0	1	2	3	0	0	0	0	0	4	2	6	0	0	0	0	0	0	14	
4:15 PM	0	0	0	0	0	0	3	2	5	0	0	0	0	0	4	1	5	0	0	0	0	2	1	3	0	0	0	0	0	3	1	4	0	0	0	0	0	0	17	
4:30 PM	0	0	0	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	5			
4:45 PM	0	0	0	0	0	0	6	2	8	0	0	0	0	1	0	1	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	12		
Total Volume	0	0	0	0	0	0	22	8	20	0	0	0	0	6	1	7	0	0	0	0	6	3	9	0	0	0	0	0	8	3	11	0	0	0	0	1	1	48		
N Approaches Total	0	0	0	0	0	0	58.3	41.7	80	0	0	0	0	0	71.4	28.6	100	0	0	0	0	61.5	38.5	100	0	0	0	0	0	66.7	33.3	100	0	0	0	0	0	0	0	
PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Entering Leg	0	0	0	0	0	0	12	6	20	0	0	0	0	0	6	1	7	0	0	0	0	6	3	9	0	0	0	0	0	8	3	11	0	0	0	0	1	1	48	
Exiting Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	30							14							13							15							2							2		80		



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Cars and Heavy Vehicles (Combined)

CLASS:		Cars and Heavy Vehicles (Continued)																													
		Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue					
		from North						from Northeast						from East						from South						from West					
		Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Total
4:00 PM	26	1	5	0	0	32	1	3	0	0	0	4	1	22	95	2	0	120	1	0	0	0	0	1	0	122	1	23	0	145	303
4:15 PM	16	2	6	0	0	24	1	1	0	1	0	3	0	16	82	0	0	88	2	0	1	0	0	3	1	113	0	43	0	159	285
4:30 PM	18	0	15	0	0	33	2	5	0	0	0	7	2	13	96	0	0	111	0	0	0	0	0	0	1	115	1	44	0	151	302
4:45 PM	27	0	6	0	0	33	1	4	0	0	0	5	1	18	94	0	0	113	0	0	0	0	0	0	0	132	1	21	0	154	308
Total	87	3	32	0	0	122	5	13	0	1	0	22	4	69	367	2	0	442	3	0	1	0	0	4	2	482	3	121	0	608	1198
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	24	96	0	0	121	0	0	1	0	0	1	0	116	3	50	0	169	329
5:15 PM	15	3	8	0	0	26	0	1	0	1	0	2	1	23	72	0	0	96	2	0	0	1	0	3	1	139	1	55	0	198	321
5:30 PM	13	0	8	0	0	21	0	4	0	3	0	7	0	17	82	0	0	99	2	0	1	0	0	3	1	148	1	49	1	200	330
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	102	3	0	125	4	0	1	0	0	5	0	137	2	40	0	178	345
Total	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326
Grand Total	152	7	70	0	0	229	10	25	0	10	0	45	6	153	719	5	0	883	11	0	4	1	0	16	4	1022	9	315	1	1331	2524
Approach %	66.4	3.1	30.6	0.0	0.0		22.2	55.6	0.0	22.2	0.0		0.7	17.3	81.4	0.6	0.0		68.8	0.0	25.0	6.3	0.0		0.3	75.6	0.7	23.3	0.1		
Total %	6.0	0.3	2.8	0.0	0.0		0.4	1.0	0.0	0.4	0.0		0.2	6.1	28.5	0.2	0.0		0.4	0.0	0.2	0.0	0.0		0.2	40.3	0.4	12.5	0.0		
Existing Leg Total						482						15					1113						14						839	2574	
Cars	152	7	70	0	0	229	10	25	0	9	0	44	6	150	698	5	0	859	11	0	4	1	0	16	4	999	9	312	1	1325	2472
% Cars	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	90.0	0.0	97.8	100.0	98.0	97.1	100.0	0.0	99.2	100.0	0.0	100.0	0.0	100.0	100.0	100.0	97.7	100.0	99.0	100.0	98.1	98.0
Existing Leg Total						476						15					1089						16						877	2433	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	3	21	0	0	24	0	0	0	0	0	0	0	23	0	3	0	26	31
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	2.2	0.0	2.0	2.5	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.0	0.0	1.9	2.0
Existing Leg Total						0						0					24						0						21	31	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

5:00 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total			
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	24	96	0	0	121	0	0	1	0	0	1	0	116	3	50	0	169	329
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	22	72	0	0	96	2	0	0	1	0	3	1	139	1	55	0	196	321
5:30 PM	13	0	8	0	0	21	0	4	0	3	0	7	0	17	82	0	0	99	2	0	1	0	0	3	1	148	1	49	1	200	330
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	101	3	0	125	4	0	1	0	0	5	0	137	2	40	0	178	345
Total Volume	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326
% Approach Total	60.7	3.2	35.5	0.0	0.0		21.7	52.2	0.0	26.1	0.0		0.5	19.0	79.3	0.7	0.0		66.7	0.0	25.0	6.3	0.0		0.3	72.7	0.4	26.1	0.1		
PHF	0.955	0.333	0.884	0.000	0.000	0.811	0.417	0.750	0.000	0.500	0.000	0.639	0.500	0.875	0.543	0.250	0.000	0.882	0.500	0.000	0.882	0.250	0.000	0.600	0.500	0.912	0.500	0.882	0.250	0.929	0.958
Cars	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
Cars %	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	83.3	0.0	95.7	100.0	97.6	96.6	100.0	0.0	96.8	100.0	0.0	100.0	0.0	0.0	100.0	100.0	98.1	100.0	99.5	100.0	98.5	98.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	2	12	0	0	14	0	0	0	0	0	0	0	10	0	1	0	11	26
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	4.3	0.0	2.4	3.4	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.5	0.0	1.5	2.0
Cars Enter Leg	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	1	0	1	0	2	12	0	0	14	0	0	0	0	0	0	0	10	0	1	0	11	26
Total Entering Leg	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326
Cars Entering Leg						283						4					581						9						419	1300	
Heavy Entering Leg						0						1					11						0						12	26	
Total Entering Leg						283						5					592						9						431	1326	



PDI File #: 207450 B8CC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Class:		Cars																															
		Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
		from North						from Northeast						from East						from South						from West							
		Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Total				
4:00 PM		26	1	3	0	0	30	1	3	0	0	0	4	1	21	93	2	0	117	1	0	0	0	0	1	0	118	1	23	0	142	296	
4:15 PM		16	2	6	0	0	24	1	1	0	1	0	3	0	16	80	0	0	96	2	0	1	0	0	3	1	110	0	82	0	153	279	
4:30 PM		18	0	15	0	0	33	2	5	0	0	0	7	2	13	93	0	0	108	0	0	0	0	0	0	1	113	1	84	0	149	297	
4:45 PM		27	0	8	0	0	35	1	4	0	3	0	8	1	18	92	0	0	111	0	0	0	0	0	0	0	128	1	20	0	149	301	
Total		87	3	32	0	0	122	5	13	0	4	0	22	4	68	358	2	0	432	3	0	1	0	0	4	2	488	3	119	0	593	1178	
5:00 PM		18	0	11	0	0	29	3	4	0	2	0	9	1	22	90	0	0	113	0	0	1	0	0	1	0	113	1	50	0	166	318	
5:15 PM		15	1	8	0	0	24	0	1	0	1	0	2	1	23	71	0	0	95	2	0	0	1	0	3	1	136	1	55	0	193	317	
5:30 PM		13	0	8	0	0	21	0	4	0	2	0	6	0	17	81	0	0	98	2	0	1	0	0	3	1	146	1	48	1	197	325	
5:45 PM		19	3	11	0	0	33	2	3	0	0	0	5	0	20	86	3	0	121	4	0	1	0	0	5	0	135	1	40	0	176	340	
Total		63	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300	
Grand Total		152	7	70	0	0	229	10	25	0	9	0	44	6	150	698	5	0	859	11	0	4	1	0	16	4	999	9	312	1	1325	2473	
Approach %		66.4	3.1	30.6	0.0	0.0		22.7	56.8	0.0	20.5	0.0		0.7	17.5	81.3	0.6	0.0		68.8	0.0	25.0	6.3	0.0		0.3	75.4	0.7	23.5	0.1			
Turn %		6.1	0.3	2.8	0.0	0.0		0.4	1.0	0.0	0.4	0.0		1.8	0.2	6.4	28.2	0.2	0.0		0.4	0.0	0.2	0.0	0.0		0.2	80.4	0.4	12.8	0.0		
Lefting Leg Total							478						15						1089						16					877	2473		

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	22	60	0	0	113	0	0	1	0	0	1	0	113	3	50	0	166	318
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	23	71	0	0	95	2	0	0	1	0	3	1	136	1	55	0	193	317
5:30 PM	13	0	8	0	0	21	0	4	0	2	0	6	0	17	81	0	0	99	2	0	1	0	0	3	1	146	1	48	1	197	325
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	98	3	0	121	4	0	1	0	0	5	0	135	1	40	0	176	340
Total Volume	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
% Approach to Total	60.7	3.7	35.5	0.0	0.0		22.7	56.5	0.0	22.7	0.0		0.5	19.2	79.6	0.7	0.0		66.7	0.0	25.0	6.3	0.0		0.3	72.4	0.8	26.4	0.1		
ave	0.855	0.333	0.864	0.000	0.000	0.811	0.417	0.750	0.000	0.625	0.000	0.611	0.900	0.891	0.867	0.290	0.000	0.862	0.500	0.000	0.750	0.250	0.000	0.600	0.500	0.908	0.500	0.877	0.250	0.929	0.956
Lefting Leg	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
Turning Leg						283						8						563						8						819	1390
Total						390						30						1008						20						1151	2690



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

Class	Heavy Vehicles Combined (Buses, Single-Unit Trucks, Articulated Trucks)																														
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	4	0	0	0	4	7			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	1	0	0	4	8			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	2	0	0	0	0	2	5			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	0	1	0	0	5	9			
Total	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0	10	0	0	0	0	0	13	0	2	0	0	15	25			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	6	0	0	8	0	0	0	0	0	3	0	0	0	3	11				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	0	0	0	3	4				
5:30 PM	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2	0	1	0	3	5				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	2	0	0	0	2	6				
Total	0	0	0	0	0	0	0	0	1	0	1	2	12	0	0	14	0	0	0	0	0	10	0	1	0	11	26				
Grand Total	0	0	0	0	0	0	0	0	1	0	1	3	21	0	0	24	0	0	0	0	0	23	0	3	0	26	51				
Approach %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	12.5	87.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	88.5	0.00	11.5	0.00	0.00	0.00				
Total %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	5.9	41.2	0.00	0.00	47.1	0.00	0.00	0.00	0.00	0.00	45.1	0.00	5.8	0.00	51.0	0.00				
Existing Leg Total	6						9						24						0						23						51
Buses	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	18	0	0	0	18	34				
% Buses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.2	0.00	0.00	66.7	0.00	0.00	0.00	0.00	0.00	78.3	0.00	0.00	0.00	69.2	66.7				
Existing Leg Total	0						0						16						0						16						34
Single-Unit Trucks	0	0	0	0	0	0	0	0	1	0	1	3	4	0	0	7	0	0	0	0	0	4	0	3	0	7	15				
% Single-Unit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	100.00	19.0	0.00	0.00	29.2	0.00	0.00	0.00	0.00	0.00	0.00	17.4	0.00	100.00	0.00	26.9	29.4				
Existing Leg Total	0						1						5						0						4						15
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2				
% Articulated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.8	0.00	0.00	4.2	0.00	0.00	0.00	0.00	0.00	4.3	0.00	0.00	0.00	3.8	3.9				
Existing Leg Total	0						0						1						0						1						2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue							Total
	from North					from Northeast					from East					from South					from West							
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	1	0	4	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	0	1	0	5		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	6	0	0	8	0	0	0	0	0	0	3	0	0	0	3	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	12	0	2	0	14	
% Approach Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.3	86.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.7	0.00	14.3	0.00	0.00		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.542	0.000	0.000	0.469	0.000	0.000	0.000	0.000	0.000	0.600	0.750	0.000	0.500	0.000	0.700	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	8	0	0	0	8	
Buses %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.9	0.00	0.00	66.7	0.00	0.00	0.00	0.00	0.00	0.00	66.7	0.00	0.00	0.00	57.1	
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	3	0	2	0	5	
Single Unit %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.0	15.4	0.00	0.00	26.7	0.00	0.00	0.00	0.00	0.00	0.00	25.0	0.00	100.00	0.00	35.7	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	
Articulated %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.7	0.00	0.00	6.7	0.00	0.00	0.00	0.00	0.00	0.00	8.3	0.00	0.00	0.00	7.1	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	8	0	0	0	8	
Single Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	3	0	2	0	5	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	
Total Existing Leg	0	0	0	0	0	0	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	12	0	2	0	14	
Buses	0					0					10					0					8							
Single Unit Trucks	0					0					4					0					3							
Articulated Trucks	0					0					0					0					1							
Total Existing Leg	0					0					12					0					13							



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



#### Buses

Class	0525																															
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total	Right	Thru	Left	U-Turn	Total	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	17	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	6	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	17	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	18	0	0	0	34	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	0.0	0.0	0.0	52.9	
Excluding Leg Total	0						0						18						0						18						34	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	2	0	0	0	2	6
Total volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	8	0	0	0	8	18
% approach total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.000	0.000	0.667	0.750
Excluding Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	8	0	0	0	8	18
Excluding Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	10	0	0	0	10	18
Total	0						0						18						0						18						36



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B. Zimolke  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Single-Unit Trucks

Class	Single-Unit Trucks																													
	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue									
	from North					from Northeast					from East					from South					from West									
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Hard Left	Left	U-Turn	Total	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3	0	2	0	5	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	1	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	2	1	0	0	5	0	0	0	0	0	0	1	0	1	0	2	4
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	3	4	0	0	7	0	0	0	0	0	0	4	0	3	0	7	15
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	42.9	57.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	0.0	42.9	0.0	0.0	0.0
Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	6.7	0.0	20.0	26.7	0.0	0.0	46.7	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.0	20.0	0.0	46.7	0.0
Exhib 100 Total	6					0					5					0					10					15				

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue					Total	
	from North					from Northeast					from East					from South					from West						
	Right	Thru	Left	Hard Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Hard Left	Left	U-Turn		Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	1	0	0	1	4
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	3	0	2	0	5	9
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	40.0	0.0	5	9
Exh	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.500	0.000	0.417	0.565
Exhib 100	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	3	0	2	0	5	9
Total	4					0					7					0					7					18	



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Articulated Trucks

Class	At Redwood Avenue																															
	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue											
	from North					from Northeast					from East					from South					from West											
	Right	Thru	Left	Hand Left	U-Turn	Total	Hand Right	Right	Thru	Left	Hand Left	U-Turn	Total	Hand Right	Right	Thru	Left	U-Turn	Total	Hand Right	Right	Thru	Left	U-Turn	Total	Hand Right	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2
Approach W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
Total W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	50
Ending Leg Total	0					0					1					0					1							2				

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM		Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue					Total
		from North					from Northeast					from East					from South					from West					
		Right	Thru	Left	Hand Left	U-Turn	Right	Thru	Left	Hand Left	U-Turn	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	1	
W Approach Total	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.500	
Ending Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	
Ending Leg	0					0					1					0					1					2	
Total	0					0					2					0					2					4	



PDI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



Bicycles (on Roadway and Crosswalks)

Class:	Streets (on Roadway and Crosswalks)																																				Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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	Right	Thru	Left	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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	Right	Thru	Left	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other	U-turn	Other</



POI File #: 207450 BBCC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 4:00 PM  
 End Time: 6:00 PM  
 Class:



### Pedestrians

Class	Pedestrians																																				Total														
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue																										
	from North						from Northeast						from East						from South						from West																										
	per	hour	adj	signal	traffic	acc	per	hour	adj	signal	traffic	acc	per	hour	adj	signal	traffic	acc	per	hour	adj	signal	traffic	acc	per	hour	adj	signal	traffic	acc	per	hour	adj	signal	traffic	acc															
4:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	2	2	10										
4:15 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	0	0	0	0	0	3	1	4	12										
4:30 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5											
4:45 PM	0	0	0	0	0	0	5	2	7	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	21											
Total	0	0	0	0	0	0	9	4	13	0	0	0	0	0	0	3	5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	8	68											
5:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	7												
5:15 PM	0	0	0	0	0	3	3	6	0	0	0	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	1	1	16										
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	10												
5:45 PM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	5										
Total	0	0	0	0	0	0	6	4	10	0	0	0	0	0	8	6	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	38										
Grand Total	0	0	0	0	0	0	15	8	23	0	0	0	0	0	17	11	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	17	86										
Approach N	0	0	0	0	0	0	65.2	34.8	0	0	0	0	0	0	60.7	39.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43.5	56.5	0	0	0	0	50	50	0											
Total N	0	0	0	0	0	0	17.4	9.8	26.2	0	0	0	0	0	19.8	12.8	32.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.6	15.1	26.7	0	0	0	0	6.8	8.8	14										
Existing Leg Total	23										28										0										23										12										88

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

Peak Hour Analysis from 04:00 PM to 05:00 PM Beginning	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total
	from North										from Northeast										from East										from South										from West										
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right									
4:45 PM	0	0	0	0	0	0	5	2	7	0	0	0	0	0	0	6	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21		
5:00 PM	0	0	0	0	0	0	4	0	1	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
5:15 PM	0	0	0	0	0	0	3	3	6	0	0	0	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16		
5:30 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10		
Total Volume	0	0	0	0	0	0	11	5	16	0	0	0	0	0	0	13	6	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54			
6 Approach Total	0	0	0	0	0	0	11	5	16	0	0	0	0	0	0	13	6	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Flow	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.20	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.25	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Existing Leg	0	0	0	0	0	0	11	5	16	0	0	0	0	0	0	13	6	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54			
Existing Leg	16										19										0										9										5										54
Total	32										38										0										25										10										108



PDI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



Cars and Heavy Vehicles (Combined)

Class	Cars and Heavy Vehicles (Estimated)																																
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total		
	from North						from Northeast						from East						from South						from West								
	Right	Thru	Left	Hard Left	to Turn	Total	Hard Right	Hard Left	Right	Thru	Left	Hard Left	to Turn	Total	Hard Right	Right	Thru	Left	to Turn	Total	Right	Hard Right	Thru	Left	to Turn	Total	Right	Thru	Hard Left	to Turn		Total	
7:00 AM	46	4	20	0	0	70	0	1	0	0	0	0	0	1	0	8	90	0	0	98	1	0	1	0	0	4	0	88	2	13		0	103
7:15 AM	90	8	18	1	0	117	0	0	0	0	0	0	0	0	1	6	75	0	0	82	3	0	0	0	0	3	0	106	3	10	0	119	271
7:30 AM	53	11	14	0	0	77	0	0	0	0	0	0	0	0	3	29	102	1	1	135	8	0	2	0	0	10	0	97	2	22	0	121	344
7:45 AM	41	9	20	0	0	70	0	0	0	0	0	0	0	0	0	25	116	5	0	146	9	0	3	0	0	16	0	111	5	25	0	131	373
Total	190	27	66	1	0	284	0	1	0	0	0	0	0	1	4	68	383	6	1	462	23	0	10	0	0	33	0	402	12	70	0	484	1264
8:00 AM	57	1	21	0	0	79	1	0	0	0	1	0	0	2	2	27	124	2	0	155	0	0	0	0	0	0	1	82	4	28	0	115	351
8:15 AM	43	1	11	0	0	55	0	0	0	0	0	0	0	0	1	13	90	0	0	104	1	1	0	0	0	2	0	93	9	13	0	115	276
8:30 AM	31	0	10	1	0	42	0	0	0	0	0	0	0	0	0	14	93	0	0	107	4	0	2	1	0	7	0	103	4	13	0	120	276
8:45 AM	28	1	10	1	0	40	0	0	0	2	0	0	0	2	1	34	115	0	0	130	2	0	0	2	0	4	0	98	8	12	0	115	281
Total	159	3	52	2	0	216	1	0	0	3	0	0	0	4	4	68	422	2	0	496	7	1	2	3	0	13	1	376	21	67	0	465	1194
Graded Total	349	30	118	3	0	500	1	1	0	3	0	0	0	5	8	136	805	8	1	958	30	1	12	3	0	46	1	778	33	137	0	949	2458
Approach %	69.8	6.0	23.6	0.6	0.0	0.0	20.0	20.0	0.0	60.0	0.0	0.0	0.0	0.8	14.2	84.0	0.8	0.1	65.2	2.2	26.1	6.5	0.0	0.0	0.1	82.0	3.5	14.4	0.0	0.0	0.0	88.6	2458
Total %	14.2	1.2	4.8	0.1	0.0	20.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	9.5	32.8	0.3	0.0	39.0	1.2	0.0	0.5	0.1	0.0	1.9	0.0	31.7	1.3	5.6	0.0	38.6	2458	
Existing Leg Total	284						284						930						39						1158						2458		
Cars	340	30	113	3	0	486	1	1	0	3	0	0	0	5	8	132	749	8	1	898	30	1	12	3	0	45	1	713	33	133	0	880	2314
% Cars	97.4	100.0	95.8	100.0	0.0	97.2	100.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	100.0	97.1	93.0	100.0	100.0	91.7	100.0	100.0	100.0	66.7	0.0	97.9	100.0	91.6	100.0	97.1	0.0	92.7	94.1
Existing Leg Total	278						278						860						39						1092						2314		
Heavy Vehicles	9	0	5	0	0	14	0	0	0	0	0	0	0	0	4	56	0	0	60	0	0	0	1	0	1	0	65	0	4	0	69	144	
% Heavy Vehicles	2.6	0.0	4.2	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	7.0	0.0	0.0	6.3	0.0	0.0	0.0	33.3	0.0	2.2	0.0	8.4	0.0	2.9	0.0	7.3	5.9	
Existing Leg Total	8						8						70						0						66						144		

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:30 AM	53	11	13	0	0	0	0	0	0	0	0	0	3	29	102	1	1	136	8	0	2	0	0	10	0	97	2	22	0	121	344
7:45 AM	41	9	20	0	0	0	0	0	0	0	0	0	0	25	116	5	0	146	9	0	3	0	0	16	0	111	5	25	0	131	373
8:00 AM	57	1	21	0	0	0	0	0	0	1	0	0	0	27	124	2	0	155	0	0	0	0	0	0	1	82	4	28	0	115	351
8:15 AM	43	1	11	0	0	0	0	0	0	0	0	0	0	13	90	0	0	104	1	1	0	0	0	2	0	93	9	13	0	115	276
Total Volume	194	22	65	0	0	0	1	0	0	1	0	2	6	94	432	8	1	541	18	1	9	0	0	28	1	383	20	68	0	492	1344
% Approach Total	69.0	7.8	23.1	0.0	0.0	0.0	10.0	0.0	0.0	10.0	0.0	0.2	1.1	17.4	39.9	1.5	0.2	64.3	3.6	32.1	0.0	0.0	0.0	0.2	0.2	77.8	4.1	17.9	0.0	0.0	0.0
PHF	0.851	0.500	0.774	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.500	0.810	0.871	0.600	0.250	0.873	0.500	0.750	0.521	0.000	0.000	0.438	0.250	0.863	0.556	0.786	0.000	0.872	0.901
Cars	191	22	63	0	0	0	1	0	0	1	0	2	6	93	407	8	1	515	18	1	9	0	0	28	1	347	20	85	0	453	1274
Cars %	98.5	100.0	96.9	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	98.9	94.2	100.0	100.0	95.2	100.0	100.0	100.0	0.0	0.0	100.0	100.0	90.6	100.0	96.6	0.0	92.1	94.8
Heavy Vehicles	3	0	2	0	0	0	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	39	70
Heavy Vehicles %	1.5	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	3.4	0.0	7.9	5.2
Cars Enter Leg	191	22	63	0	0	0	1	0	0	1	0	2	6	93	407	8	1	515	18	1	9	0	0	28	1	347	20	85	0	453	1274
Heavy Enter Leg	3	0	2	0	0	0	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	39	70
Total Entering Leg	194	22	65	0	0	0	1	0	0	1	0	2	6	94	432	8	1	541	18	1	9	0	0	28	1	383	20	88	0	492	1344
Exit Entering Leg	180						180						432						31						598						1274
Exit Exiting Leg	0						0						0						0						0						70
Total Exiting Leg	180						180						432						31						598						1344



PDI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



Class	Cars																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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	from North					from Northeast					from East					from South					from West																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
7:00 AM	44	4	18	0	66	0	1	0	0	1	0	8	79	0	87	3	0	1	0	4	0	79	2	13	0	94	0	0	0	0	0	252																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
7:15 AM	48	3	13	1	65	0	0	0	0	0	1	5	69	0	75	3	0	0	0	3	0	97	3	10	0	110	0	0	0	0	0	253																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
7:30 AM	52	11	13	0	76	0	0	0	0	0	3	28	94	1	127	8	0	2	0	10	0	88	2	19	0	109	0	0	0	0	0	322																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
7:45 AM	43	9	20	0	72	0	0	0	0	0	0	25	110	5	140	9	0	2	0	26	0	100	5	25	0	130	0	0	0	0	0	356																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Total	185	27	64	1	277	0	1	0	0	1	4	66	352	6	429	23	0	10	0	33	0	264	12	67	0	443	0	0	0	0	0	1183																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
8:00 AM	57	1	19	0	77	1	0	0	1	2	2	27	118	2	149	0	0	0	0	0	1	77	4	28	0	110	0	0	0	0	0	338																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
8:15 AM	41	1	11	0	53	0	0	0	0	0	1	13	85	0	99	1	1	0	0	2	0	82	9	13	0	104	0	0	0	0	0	258																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
8:30 AM	30	0	10	1	41	0	0	0	0	0	0	13	86	0	99	4	0	2	1	7	0	98	4	12	0	114	0	0	0	0	0	261																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
8:45 AM	27	1	9	1	38	0	0	0	2	2	1	13	108	0	122	2	0	0	1	3	0	92	4	18	0	109	0	0	0	0	0	274																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Total	155	3	49	2	209	1	0	0	3	4	4	66	397	2	469	7	1	2	2	12	1	349	21	66	0	437	0	0	0	0	0	1131																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Grand Total	340	30	113	3	486	1	1	0	3	5	8	132	749	8	888	30	1	12	2	45	1	713	33	133	0	880	0	0	0	0	0	2314																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Approach %	70.0	6.2	23.3	0.6	0.0	20.0	20.0	0.0	60.0	0.0	0.9	14.7	83.4	0.9	0.1	66.7	2.2	26.7	4.4	0.0	0.1	81.0	3.8	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM		Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue																			
		from North					from Northeast					from East					from South					from West					from West																																		
		Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total																													
7:30 AM		52	11	13	0	76	0	0	0	0	0	3	28	94	1	127	8	0	2	0	10	0	88	2	19	0	109	0	0	0	0	109	322																												
7:45 AM		41	9	20	0	70	0	0	0	0	0	0	25	110	5	140	9	0	2	0	16	0	100	5	25	0	130	0	0	0	0	130	356																												
8:00 AM		57	1	19	0	77	1	0	0	1	2	2	27	118	2	149	0	0	0	0	0	1	77	4	28	0	110	0	0	0	0	110	338																												
8:15 AM		41	1	11	0	53	0	0	0	0	0	1	13	85	0	99	1	1	0	0	2	0	82	9	13	0	104	0	0	0	0	104	258																												
Total Volume		191	22	63	0	276	1	0	0	1	2	6	93	407	8	515	18	1	4	0	24	1	347	20	85	0	453	0	0	0	0	453	1274																												
% Approach Total		69.2	8.0	22.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	14.1	70.0	1.1	0.7	64.3	3.8	32.1	0.0	0.0	0.0	0.2	76.6	14.4	18.9	0.0																																		
PHF		0.838	0.500	0.738	0.000	0.896	0.250	0.000	0.000	0.250	0.000	0.500	0.830	0.862	0.400	0.250	0.864	0.500	0.250	0.321	0.000	0.000	0.433	0.250	0.868	0.356	0.759	0.000	0.371	0.895	0.895																														
Feeling Log		191	22	63	0	276	1	0	0	1	2	6	93	407	8	515	18	1	4	0	24	1	347	20	85	0	453	0	0	0	0	453	1274																												
Feeling Log		464										27										31										598										1274																			
Total		464										29										943										59										1051										2748									



PDI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



### Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

Class	Heavy Vehicles (Combined Trucks, Single-Unit Trucks, Articulated Trucks)																															
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue from East						Burton Street from South						Massachusetts Avenue from West						Total	
	from North						from Northeast						from East						from South						from West							
Right	Thru	Left	Right/Left	U-Turn	Total	Right	Thru	Left	Right/Left	U-Turn	Total	Right	Thru	Left	Right/Left	U-Turn	Total	Right	Thru	Left	Right/Left	U-Turn	Total	Right	Thru	Left	Right/Left	U-Turn	Total			
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	31	0	0	11	0	0	0	0	0	0	0	9	0	0	0	0	9	24
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	0	9	0	0	0	0	9	18
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	0	9	0	1	0	0	12	22
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	6	0	0	0	0	0	0	0	11	0	0	0	0	11	17
Total	5	0	2	0	0	7	0	0	0	0	0	0	0	2	53	0	0	33	0	0	0	0	0	0	0	28	0	1	0	0	41	81
8:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	5	0	0	0	0	5	13
8:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	11	0	0	0	0	11	18
8:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	0	5	0	1	0	0	6	15
8:45 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	1	7	0	0	8	0	0	0	1	0	1	0	6	0	0	0	0	6	17
Total	4	0	3	0	0	7	0	0	0	0	0	0	0	2	23	0	0	27	0	0	0	1	0	1	0	27	0	1	0	0	28	63
Grand Total	9	0	5	0	0	14	0	0	0	0	0	0	0	4	56	0	0	60	0	0	0	1	0	1	0	65	0	4	0	0	69	144
Approach %	64.3	0.0	35.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	6.7	93.3	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	94.2	0.0	5.8	0.0			
Total %	6.3	0.0	3.5	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0		0.0	2.8	38.9	0.0	0.0	41.7	0.0	0.0	0.0	0.7	0.0	0.7	0.0	45.1	0.0	2.8	0.0		47.9	
Trucking Leg Total	8						0						70						0						66						144	
Buses	0						0						0						0						0						45	
% Buses	0.0						0.0						0.0						0.0						0.0						31.3	
Exiting Leg Total	0						0						21						1						26						45	
Single-Unit Trucks	9						0						3						0						38						88	
% Single Unit	100.0						0.0						75.0						0.0						58.5						61.1	
Trucking Leg Total	6						0						43						0						39						88	
Articulated Trucks	0						0						1						0						6						11	
% Articulated	0.0						0.0						2.5						0.0						9.2						7.6	
Trucking Leg Total	2						0						6						0						3						11	

### Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total						
	from North						from Northeast						from East						from South						from West												
	Right	Thru	Left	Right/Left	U-Turn	Total	Right	Thru	Left	Right/Left	U-Turn	Total	Right	Thru	Left	Right/Left	U-Turn	Total	Right	Thru	Left	Right/Left	U-Turn	Total	Right	Thru	Left	Right/Left	U-Turn	Total							
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	24					
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	0	9	0	0	0	0	9	18					
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	0	9	0	1	0	0	12	22					
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	6	0	0	0	0	0	0	0	11	0	0	0	0	11	17					
Total Volume	5	0	2	0	0	7	0	0	0	0	0	0	0	2	53	0	0	33	0	0	0	0	0	0	0	28	0	1	0	0	41	81					
% Approach Total	71.4	0.0	28.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	6.3	93.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	45.1	0.0	5.8	0.0		47.9						
PHF	0.625	0.000	0.250	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.705	0.000	0.000	0.756	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.364	0.000	0.250	0.000	0.859	0.844						
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	9	24					
Buses %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.4	0	0	45.5	0	0	0	0	0	0	0	23.7	0	0	0	0	22.0	29.6					
Single Unit Trucks	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	0	24	0	2	0	0	26	50					
Single Unit %	100.0	0	100.0	0	0	100.0	0	0	0	0	0	0	0	100.0	48.4	0	0	51.5	0	0	0	0	0	0	0	63.2	0	66.7	0	63.4	61.7						
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5	0	1	0	0	6	7					
Articulated %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.2	0	0	3.0	0	0	0	0	0	0	0	13.2	0	33.3	0	14.6	8.6						
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	9	0	0	0	0	9	24					
Single Unit Trucks	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	0	24	0	2	0	0	26	50					
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5	0	1	0	0	6	7					
Total Entering Leg	5	0	2	0	0	7	0	0	0	0	0	0	0	2	53	0	0	33	0	0	0	0	0	0	0	28	0	1	0	0	41	81					
Buses	0						0						0						0						9						24						
Single Unit Trucks	7						0						0						0						26						50						
Articulated Trucks	1						0						0						1						6						7						
Total Entering Leg	5						0						0						40						0						36						81



PDI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



Class		Buses																										
		Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue						
		from North					from Northeast					from East					from South					from West						
		Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total	
7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	4	9
7:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	2	0	0	0	2	8
7:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	8
7:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	0	0	0	3	6
Total		0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	5	0	0	0	9	24
8:00 AM		0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	4	0	0	0	4	7
8:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	4	
8:30 AM		0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	2	5	
8:45 AM		0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	0	0	0	3	5	
Total		0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	12	0	0	0	12	21	
Grand Total		0	0	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	21	0	0	0	21	45	
Approach %		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		
Total %		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.7	0.0	0.0	0.0	46.7		
Entering Leg Total		0					0					21					0					21					45	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

7:00 AM		Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
		from North						from Northeast						from East						from South						from West						
		Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
		0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	4	0	0	0	4					
7:00 AM		0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	2	0	0	0	2	9					
7:15 AM		0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	6					
7:30 AM		0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	6					
7:45 AM		0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	6					
Total Volume		0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	4	0	0	0	4	24					
% Approach Total		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0						
Feet		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.543	0.000	0.000	0.000	0.543	0.667					
Entering Leg		0						0						15						0						4						24
Exiting Leg		0						0						0						0						0						0
Total		0						0						15						0						4						24



PDI File #: 207450 8C  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



Single-Unit Trucks

		Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue									
		from North										from Northeast										from East										from South										from West									
		Right	Thru	Left	Stand Left	U-Turn	Total	Stand Right	Stand Left	Right	Stand Left	Stand Right	U-Turn	Total	Stand Right	Right	Thru	Left	U-Turn	Total	Stand Right	Stand Left	Right	Stand Left	U-Turn	Total	Stand Right	Stand Left	Right	Stand Left	U-Turn	Total																			
7:00 AM		2	0	2	0	0	4	0	0	0	0	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	4	0	0	0	4	16																			
7:15 AM		2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	4	0	0	0	4	8																				
7:30 AM		1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	9	0	2	0	11	18																				
7:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	7	0	0	0	7	8																				
Total		5	0	2	0	0	7	0	0	0	0	0	0	0	0	2	15	0	0	0	0	0	0	0	0	24	0	2	0	26	50																				
8:00 AM		0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	6																				
8:15 AM		2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	6	0	0	0	6	12																				
8:30 AM		1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	3	0	1	0	4	10																				
8:45 AM		1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	4	0	0	0	4	10																				
Total		4	0	3	0	0	7	0	0	0	0	0	0	0	0	1	14	0	0	0	0	0	0	0	0	14	0	1	0	15	38																				
Grand Total		9	0	5	0	0	14	0	0	0	0	0	0	0	0	3	29	0	0	0	0	0	0	0	0	38	0	3	0	41	88																				
Approach %		64.3	0.0	35.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	9.4	90.6	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	92.7	0.0	7.3	0.0																				
Total %		10.2	0.0	5.7	0.0	0.0	15.9	0.0	0.0	0.0	0.0	0.0	0.0		0.0	3.4	33.0	0.0	0.0		0.0	0.0	0.0	1.1	0.0	1.1	0.0	48.2	0.0	8.4	0.0																				
Existing Leg Total		6						0						49						0						29						88																			

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Stand Left	U-Turn	Total	Stand Right	Stand Left	Right	Stand Left	Stand Right	U-Turn	Total	Stand Right	Right	Thru	Left	U-Turn	Total	Stand Right	Stand Left	Right	Stand Left	U-Turn	Total	Stand Right	Stand Left	Right	Stand Left	U-Turn	Total	
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	34
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	9
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	9	0	2	0	11	18
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	7	5
Total without	5	0	2	0	0	7	0	0	0	0	0	0	0	0	2	15	0	0	0	0	0	0	0	0	0	0	24	0	2	0	26	50
% Approach Total	71.4	0.0	28.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	11.8	88.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	92.3	0.0	7.7	0.0		
#/Sec	0.625	0.000	0.250	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	6.875	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.250	0.000	0.593	0.694
Existing Leg	5	0	2	0	0	7	0	0	0	0	0	0	0	0	2	15	0	0	0	0	0	0	0	0	0	0	24	0	2	0	26	50
Feet/Sec	4	0	0	0	0	4	0	0	0	0	0	0	0	0	2	15	0	0	0	0	0	0	0	0	0	0	20	0	0	0	20	50
Total	11						0						48						0						46						100	



PDI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class



Articulated Trucks

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Right Left	U-Turn	Total	Right	Thru	Left	Right Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Right Left	Left	U-Turn	Total			
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	1	0	6	7	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	4
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	1	0	0	0	1	4	8
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	3	0	0	0	0	0	0	0	6	0	1	0	7	11	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.7	0.0	14.3	0.0			
Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	27.3	0.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	54.5	0.0	9.1	0.0	63.6		
Waiting Leg Total	2						0						6						0						3						11

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM		Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
		from North						from Northeast						from East						from South						from West							
		Right	Thru	Left	Motorist	U-Turn	Total	Motorist	Thru	Right	Motorist	U-Turn	Total	Thru	Right	Thru	Left	U-Turn	Total	Right	Motorist	Thru	Left	U-Turn	Total	Right	Thru	Motorist	Left	U-Turn	Total	Total	
7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
7:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Total vehicle		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	0	1	0	6	7	
% Approach Total		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.3	0.0	16.7	0.0			
Wait		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.500	0.583	
Entering Leg		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	5	0	1	0	6	7	
Exiting Leg		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total		1						0						6						0						7						14	





**PRECISION  
DATA  
INDUSTRIES, LLC**

46 Marion Street Framingham MA 01702  
Office 508 675 0100 Fax 508 675 0118  
Email [datarequest@pdillc.com](mailto:datarequest@pdillc.com)

[illegible][illegible]



POI File #: 207450 BC  
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway  
 Location: E: Massachusetts Avenue W: Massachusetts Avenue  
 City, State: Arlington, MA  
 Client: Nitsch Eng/B.Zimolka  
 Site Code: TBD  
 Count Date: Tuesday, February 4, 2020  
 Start Time: 7:00 AM  
 End Time: 9:00 AM  
 Class:



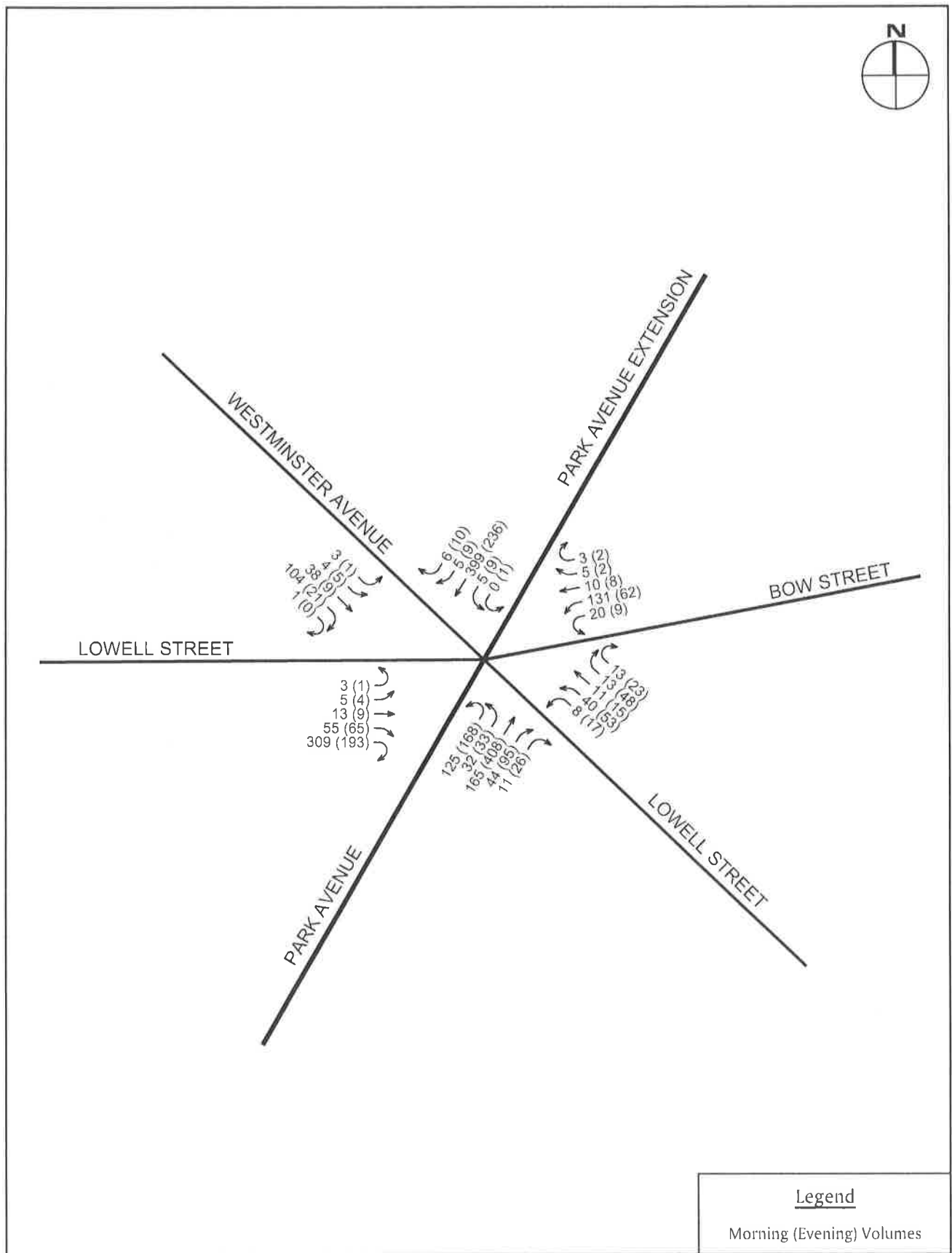
### Pedestrians

Class	Forecasting																																								Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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	right	left	right	through	left	right	left	through	left	right	right	through	left	right	left	through	right	left	right	through	left	right	right	through	left	right	left	through	right	left	right	through	left	right	left	through	right	left	right	through	left	right	left	through																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
7:15 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28	38	0	0	0	72																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Total Volume	0	0	0	0	0	0	1	1	9	0	0	0	0	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
W. Approach Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.500	0.200	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000





2016 Existing Condition Weekday Peak Hour Traffic Volumes  
19R Park Avenue  
Arlington, Massachusetts

Figure 2  
Not to Scale



## Motor Vehicle Crash Data



## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

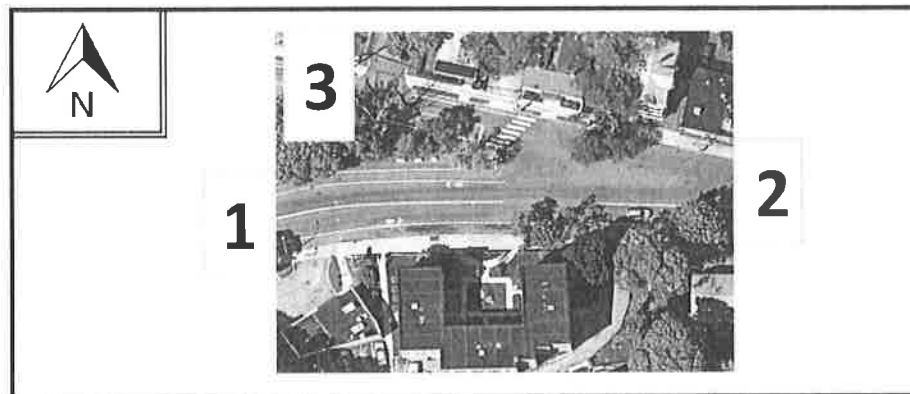
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

### ~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Lowell Street

INTERSECTION  
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	SB			
PEAK HOURLY VOLUMES (AM/PM) :	387	369	118			874

"K" FACTOR :

0.080

INTERSECTION ADT ( V ) = TOTAL DAILY  
APPROACH VOLUME :

10,925

TOTAL # OF CRASHES :

7

# OF  
YEARS :

3

AVERAGE # OF  
CRASHES PER YEAR ( A ) :

2.33

CRASH RATE CALCULATION :

0.59

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments :

Project Title & Date :



## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

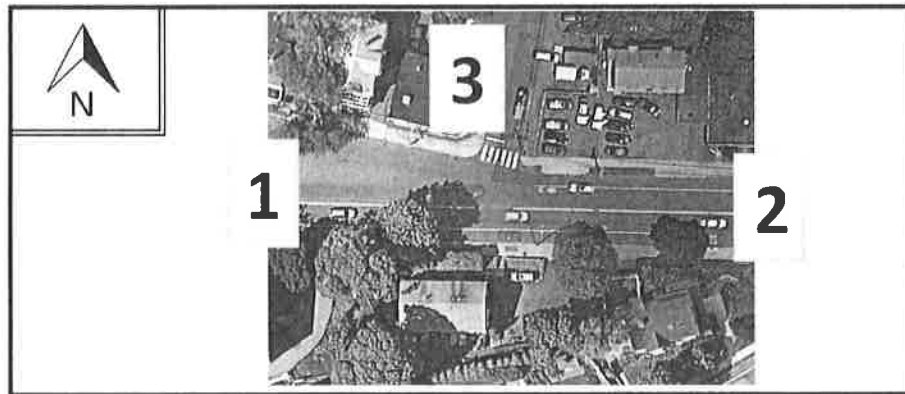
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

### ~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Clark Street

INTERSECTION  
DIAGRAM



### PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	SB			
PEAK HOURLY VOLUMES (AM/PM) :	495	374	10			879

"K" FACTOR : 0.082 INTERSECTION ADT ( V ) = TOTAL DAILY  
APPROACH VOLUME : 10,720

TOTAL # OF CRASHES : 1 # OF YEARS : 3 AVERAGE # OF  
CRASHES PER YEAR ( A ) : 0.33

CRASH RATE CALCULATION :

0.09

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : \_\_\_\_\_

Project Title & Date : \_\_\_\_\_



## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

### ~ INTERSECTION DATA ~

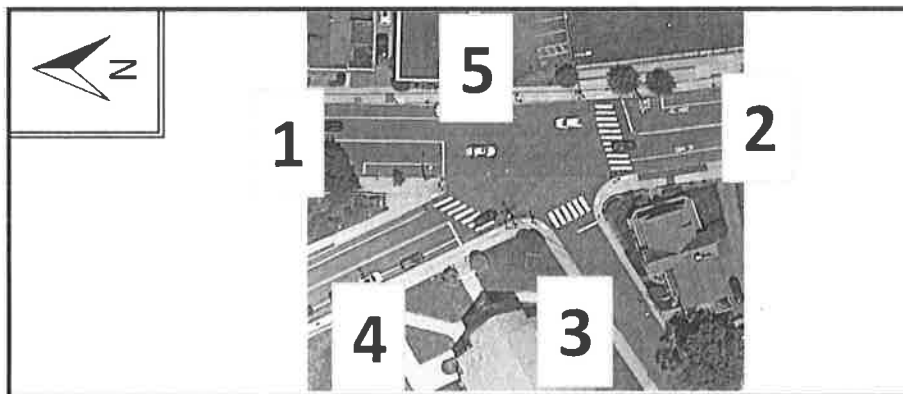
MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Appleton Street

Appleton Place

Driveway

INTERSECTION  
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	NEB	SB	
PEAK HOURLY VOLUMES (AM/PM) :	376	625	64	159	0	1,224
"K" FACTOR :	0.080	INTERSECTION ADT ( V ) = TOTAL DAILY APPROACH VOLUME :				15,300
TOTAL # OF CRASHES :	10	# OF YEARS :	3	AVERAGE # OF CRASHES PER YEAR ( A ) :		3.33

CRASH RATE CALCULATION :

**0.60**

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : \_\_\_\_\_

Project Title & Date : \_\_\_\_\_



## INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

### ~ INTERSECTION DATA ~

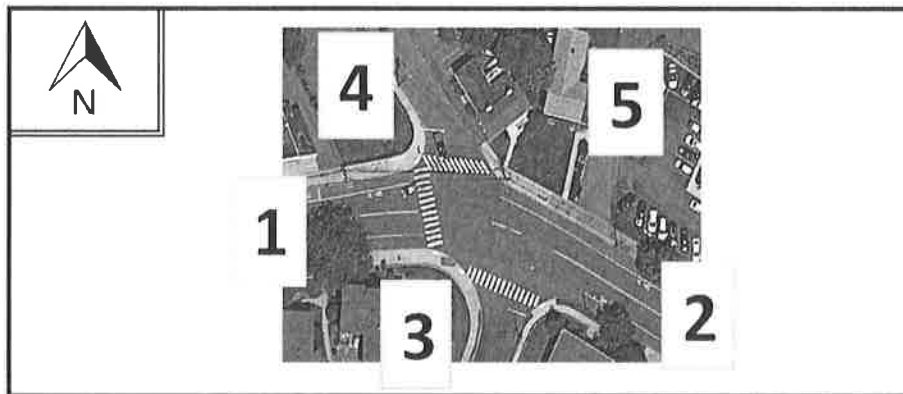
MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Forest Street

Burton Street

Driveway

INTERSECTION  
DIAGRAM



### PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SEB	SB	
PEAK HOURLY VOLUMES (AM/PM) :	492	541	28	281	1	1,343

"K" FACTOR :

**0.080**

INTERSECTION ADT ( V ) = TOTAL DAILY  
APPROACH VOLUME :

**16,788**

TOTAL # OF CRASHES :

10

# OF  
YEARS :

3

AVERAGE # OF  
CRASHES PER YEAR ( A ) :

**3.33**

CRASH RATE CALCULATION :

**0.54**

RATE =  $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : \_\_\_\_\_










Project Title & Date : \_\_\_\_\_



## Traffic Operations Analysis












28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	308	395	80	124	5
Future Volume (Veh/h)	5	308	395	80	124	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	7	411	470	95	135	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	595				1002	578
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	595				1002	578
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				67	99
cM capacity (veh/h)	963				412	640
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	418	565	140			
Volume Left	7	0	135			
Volume Right	0	95	5			
cSH	963	1700	417			
Volume to Capacity	0.01	0.33	0.34			
Queue Length 95th (ft)	1	0	36			
Control Delay (s)	0.2	0.0	17.9			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	17.9			
Approach LOS			C			
Intersection Summary						
Average Delay		2.3				
Intersection Capacity Utilization		43.9%		ICU Level of Service		A
Analysis Period (min)		15				

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	422	405	10	5	70
Future Volume (Veh/h)	10	422	405	10	5	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	13	563	482	12	5	76
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	524				1137	548
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524				1137	548
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				99	88
cM capacity (veh/h)	1023				357	659
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	576	494	81			
Volume Left	13	0	5			
Volume Right	0	12	76			
cSH	1023	1700	626			
Volume to Capacity	0.01	0.29	0.13			
Queue Length 95th (ft)	1	0	11			
Control Delay (s)	0.4	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		48.0%		ICU Level of Service		A
Analysis Period (min)		15				

\* User Entered Value


















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	341	46	284	359	0	17	0	163	1	0	0
Future Volume (Veh/h)	0	341	46	284	359	0	17	0	163	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	455	61	338	427	0	20	0	192	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	642			634			1816	1922	818	2210	1952	751
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	642			634			1816	1922	818	2210	1952	751
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			60			85	100	66	99	100	100
cM capacity (veh/h)	757			842			131	29	565	86	27	287
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	516	765	212	1								
Volume Left	0	338	20	1								
Volume Right	61	0	192	0								
cSH	757	842	430	86								
Volume to Capacity	0.00	0.40	0.49	0.01								
Queue Length 95th (ft)	0	49	66	1								
Control Delay (s)	0.0	9.0	21.2	47.5								
Lane LOS		A	C	E								
Approach Delay (s)	0.0	9.0	21.2	47.5								
Approach LOS			C	E								
Intersection Summary												
Average Delay			7.6									
Intersection Capacity Utilization			81.9%		ICU Level of Service					D		
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue & CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	415	1	10	445	98	0	9	19	65	22	194
Future Volume (Veh/h)	91	415	1	10	445	98	0	9	19	65	22	194
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	105	477	1	11	511	113	0	20	43	73	25	218
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	681			534			1620	1446	542	1396	1390	682
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	681			534			1620	1446	542	1396	1390	682
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	88			99			100	91	93	63	89	60
cM capacity (veh/h)	858			988			34	215	659	198	228	541
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	583	635	63	316								
Volume Left	105	11	0	73								
Volume Right	1	113	43	218								
cSH	858	988	398	358								
Volume to Capacity	0.12	0.01	0.16	0.88								
Queue Length 95th (ft)	10	1	14	214								
Control Delay (s)	3.1	0.3	15.7	57.1								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.1	0.3	15.7	57.1								
Approach LOS			C	F								
Intersection Summary												
Average Delay			13.2									
Intersection Capacity Utilization			93.4%		ICU Level of Service				F			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	477	552	6	1	1
Future Volume (Veh/h)	22	477	552	6	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	548	634	7	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	649				1252	654
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	649				1252	654
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	941				326	619
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	573	641	8			
Volume Left	25	0	4			
Volume Right	0	7	4			
cSH	941	1700	427			
Volume to Capacity	0.03	0.38	0.02			
Queue Length 95th (ft)	2	0	1			
Control Delay (s)	0.7	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	13.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			55.3%	ICU Level of Service	B	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Morning Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	35	29	26	304	151	8
Future Volume (Veh/h)	35	29	26	304	151	8
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	92	76	31	362	178	9
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	824	382	296			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	824	382	296			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	75	88	97			
cM capacity (veh/h)	372	628	1155			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	168	393	187			
Volume Left	92	31	0			
Volume Right	76	0	9			
cSH	456	1155	1700			
Volume to Capacity	0.37	0.03	0.11			
Queue Length 95th (ft)	42	2	0			
Control Delay (s)	17.4	0.9	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.4	0.9	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			58.1%	ICU Level of Service	B	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	382	218	151	113	5
Future Volume (Veh/h)	5	382	218	151	113	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	7	509	260	180	123	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	470				933	410
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	470				933	410
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				72	99
cM capacity (veh/h)	1071				443	756
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	516	440	128			
Volume Left	7	0	123			
Volume Right	0	180	5			
cSH	1071	1700	450			
Volume to Capacity	0.01	0.26	0.28			
Queue Length 95th (ft)	0	0	29			
Control Delay (s)	0.2	0.0	16.1			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	16.1			
Approach LOS			C			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization		41.7%		ICU Level of Service	A	
Analysis Period (min)		15				

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	485	364	10	5	5
Future Volume (Veh/h)	10	485	364	10	5	5
Sign. Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	13	647	433	12	5	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	475				1172	499
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	475				1172	499
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				99	99
cM capacity (veh/h)	1066				344	692
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	660	445	10			
Volume Left	13	0	5			
Volume Right	0	12	5			
cSH	1066	1700	460			
Volume to Capacity	0.01	0.26	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.3	0.0	13.0			
Lane LOS	A		B			
Approach Delay (s)	0.3	0.0	13.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			49.9%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	423	18	114	318	2	18	1	331	1	1	3
Future Volume (Veh/h)	3	423	18	114	318	2	18	1	331	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	455	19	130	361	2	20	1	368	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	390			481			1126	1128	498	1515	1136	410
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390			481			1126	1128	498	1515	1136	410
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			88			94	100	48	98	99	99
cM capacity (veh/h)	1149			1080			328	328	707	103	325	763
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	477	493	389	9								
Volume Left	3	130	20	2								
Volume Right	19	2	368	5								
cSH	1149	1080	666	280								
Volume to Capacity	0.00	0.12	0.58	0.03								
Queue Length 95th (ft)	0	10	95	2								
Control Delay (s)	0.1	3.3	17.7	18.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.3	17.7	18.3								
Approach LOS			C	C								
Intersection Summary												
Average Delay			6.4									
Intersection Capacity Utilization			80.4%		ICU Level of Service					D		
Analysis Period (min)			15									

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	562	2	3	375	92	1	3	8	38	4	65
Future Volume (Veh/h)	201	562	2	3	375	92	1	3	8	38	4	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	216	604	2	3	426	105	2	5	13	47	5	80
Pedestrians		21			16			21			19	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	550			627			1646	1614	642	1572	1562	518
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	550			627			1646	1614	642	1572	1562	518
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	78			100			99	97	98	74	97	88
cM capacity (veh/h)	996			945			150	174	613	182	184	690
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	822	534	20	132								
Volume Left	216	3	2	47								
Volume Right	2	105	13	80								
cSH	996	945	316	328								
Volume to Capacity	0.22	0.00	0.06	0.40								
Queue Length 95th (ft)	21	0	5	47								
Control Delay (s)	4.9	0.1	17.1	23.1								
Lane LOS	A	A	C	C								
Approach Delay (s)	4.9	0.1	17.1	23.1								
Approach LOS			C	C								
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			90.6%		ICU Level of Service				E			
Analysis Period (min)			15									

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour










19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	602	453	2	6	17
Future Volume (Veh/h)	6	602	453	2	6	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	6	647	515	2	9	27
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	517				1194	535
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	517				1194	535
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				97	96
cM capacity (veh/h)	1059				351	695
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	653	517	36			
Volume Left	6	0	9			
Volume Right	0	2	27			
cSH	1059	1700	558			
Volume to Capacity	0.01	0.30	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.2	0.0	11.9			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	11.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			51.2%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2020 Existing Weekday Evening Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	23	10	123	327	5
Future Volume (Veh/h)	3	23	10	123	327	5
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	35	12	146	363	6
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576	404	389			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576	404	389			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	96	99			
cM capacity (veh/h)	648	779	1160			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	40	158	369			
Volume Left	5	12	0			
Volume Right	35	0	6			
cSH	760	1160	1700			
Volume to Capacity	0.05	0.01	0.22			
Queue Length 95th (ft)	4	1	0			
Control Delay (s)	10.0	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.0	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			46.8%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	337	437	88	137	6
Future Volume (Veh/h)	6	337	437	88	137	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	449	520	105	149	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	655				1098	632
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	655				1098	632
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				60	99
cM capacity (veh/h)	915				373	605
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	457	625	156			
Volume Left	8	0	149			
Volume Right	0	105	7			
cSH	915	1700	380			
Volume to Capacity	0.01	0.37	0.41			
Queue Length 95th (ft)	1	0	49			
Control Delay (s)	0.3	0.0	20.9			
Lane LOS	A		C			
Approach Delay (s)	0.3	0.0	20.9			
Approach LOS			C			
Intersection Summary						
Average Delay		2.7				
Intersection Capacity Utilization		46.9%		ICU Level of Service		A
Analysis Period (min)		15				

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	463	448	11	6	77
Future Volume (Veh/h)	11	463	448	11	6	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	617	533	13	7	84
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576				1246	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576				1246	600
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				98	87
cM capacity (veh/h)	979				317	626
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	632	546	91			
Volume Left	15	0	7			
Volume Right	0	13	84			
cSH	979	1700	582			
Volume to Capacity	0.02	0.32	0.16			
Queue Length 95th (ft)	1	0	14			
Control Delay (s)	0.4	0.0	12.3			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	12.3			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization		51.1%		ICU Level of Service	A	
Analysis Period (min)		15				

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	373	51	315	402	0	19	0	177	1	0	0
Future Volume (Veh/h)	0	373	51	315	402	0	19	0	177	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	497	68	375	479	0	22	0	208	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	694			683			1987	2093	864	2398	2127	803
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	694			683			1987	2093	864	2398	2127	803
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	*3.5	4.0	3.3
p0 queue free %	100			54			79	100	62	99	100	100
cM capacity (veh/h)	724			808			106	20	554	68	19	268
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	565	854	230	1								
Volume Left	0	375	22	1								
Volume Right	68	0	208	0								
cSH	724	808	394	68								
Volume to Capacity	0.00	0.46	0.58	0.01								
Queue Length 95th (ft)	0	62	89	1								
Control Delay (s)	0.0	10.6	26.2	58.4								
Lane LOS		B	D	F								
Approach Delay (s)	0.0	10.6	26.2	58.4								
Approach LOS			D	F								
Intersection Summary												
Average Delay			9.2									
Intersection Capacity Utilization			88.7%	ICU Level of Service					E			
Analysis Period (min)			15									

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	456	1	10	491	108	0	10	21	72	24	223
Future Volume (Veh/h)	95	456	1	10	491	108	0	10	21	72	24	223
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	109	524	1	11	564	124	0	23	48	81	27	251
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	745			581			1768	1566	590	1516	1504	740
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	745			581			1768	1566	590	1516	1504	740
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	87			99			100	88	92	51	86	51
cM capacity (veh/h)	812			950			22	187	629	166	200	510
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	634	699	71	359								
Volume Left	109	11	0	81								
Volume Right	1	124	48	251								
cSH	812	950	356	322								
Volume to Capacity	0.13	0.01	0.20	1.12								
Queue Length 95th (ft)	12	1	18	354								
Control Delay (s)	3.4	0.3	17.6	121.4								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.4	0.3	17.6	121.4								
Approach LOS			C	F								
Intersection Summary												
Average Delay			26.8									
Intersection Capacity Utilization			101.1%		ICU Level of Service					G		
Analysis Period (min)			15									

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour

19: Massachusetts Avenue & Driveway










						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	527	608	8	1	1
Future Volume (Veh/h)	22	527	608	8	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	606	699	9	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	716				1376	720
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	716				1376	720
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	888				286	579
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	631	708	8			
Volume Left	25	0	4			
Volume Right	0	9	4			
cSH	888	1700	383			
Volume to Capacity	0.03	0.42	0.02			
Queue Length 95th (ft)	2	0	2			
Control Delay (s)	0.7	0.0	14.6			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	14.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		57.9%		ICU Level of Service		B
Analysis Period (min)		15				

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Morning Peak Hour










22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	39	32	29	337	164	9
Future Volume (Veh/h)	39	32	29	337	164	9
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	103	84	35	401	193	11
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	888	398	313			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888	398	313			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	70	86	97			
cM capacity (veh/h)	348	619	1139			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	187	436	204			
Volume Left	103	35	0			
Volume Right	84	0	11			
cSH	434	1139	1700			
Volume to Capacity	0.43	0.03	0.12			
Queue Length 95th (ft)	53	2	0			
Control Delay (s)	19.5	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.5	1.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			60.3%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street










						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	430	241	167	125	6
Future Volume (Veh/h)	6	430	241	167	125	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	573	287	199	136	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	516				1036	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	516				1036	446
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				66	99
cM capacity (veh/h)	1030				398	729
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	581	486	143			
Volume Left	8	0	136			
Volume Right	0	199	7			
cSH	1030	1700	407			
Volume to Capacity	0.01	0.29	0.35			
Queue Length 95th (ft)	1	0	39			
Control Delay (s)	0.2	0.0	18.6			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	18.6			
Approach LOS			C			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization		45.2%		ICU Level of Service	A	
Analysis Period (min)		15				

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour

















5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	543	402	11	6	6
Future Volume (Veh/h)	11	543	402	11	6	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	724	479	13	7	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	522				1300	546
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	522				1300	546
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				98	99
cM capacity (veh/h)	1025				301	661
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	739	492	14			
Volume Left	15	0	7			
Volume Right	0	13	7			
cSH	1025	1700	413			
Volume to Capacity	0.01	0.29	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.4	0.0	14.0			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	14.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			53.7%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	475	20	126	352	2	20	1	368	1	1	3
Future Volume (Veh/h)	3	475	20	126	352	2	20	1	368	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	511	22	143	400	2	22	1	409	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	429			540			1249	1250	556	1678	1260	449
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	429			540			1249	1250	556	1678	1260	449
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			86			92	100	39	97	99	99
cM capacity (veh/h)	1112			1027			284	283	667	69	280	734
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	536	545	432	9								
Volume Left	3	143	22	2								
Volume Right	22	2	409	5								
cSH	1112	1027	623	209								
Volume to Capacity	0.00	0.14	0.69	0.04								
Queue Length 95th (ft)	0	12	138	3								
Control Delay (s)	0.1	3.6	22.8	23.0								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.6	22.8	23.0								
Approach LOS			C	C								
Intersection Summary												
Average Delay			7.9									
Intersection Capacity Utilization			88.2%		ICU Level of Service				E			
Analysis Period (min)			15									

\* User Entered Value









28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	631	2	3	412	101	1	3	9	42	4	74
Future Volume (Veh/h)	221	631	2	3	412	101	1	3	9	42	4	74
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	238	678	2	3	468	115	2	5	15	52	5	91
Pedestrians		21			16			21			19	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	602			701			1822	1784	716	1739	1728	566
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	602			701			1822	1784	716	1739	1728	566
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	75			100			98	96	97	64	97	86
cM capacity (veh/h)	953			887			117	139	569	146	148	658
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	918	586	22	148								
Volume Left	238	3	2	52								
Volume Right	2	115	15	91								
cSH	953	887	277	280								
Volume to Capacity	0.25	0.00	0.08	0.53								
Queue Length 95th (ft)	25	0	6	72								
Control Delay (s)	5.7	0.1	19.1	31.4								
Lane LOS	A	A	C	D								
Approach Delay (s)	5.7	0.1	19.1	31.4								
Approach LOS			C	D								
Intersection Summary												
Average Delay			6.2									
Intersection Capacity Utilization			98.6%		ICU Level of Service				F			
Analysis Period (min)			15									

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour 19: Massachusetts Avenue & Driveway










						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Traffic Volume (veh/h)	18	664	497	17	7	19
Future Volume (Veh/h)	18	664	497	17	7	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	19	714	565	19	11	30
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	584				1346	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	584				1346	594
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				96	95
cM capacity (veh/h)	1001				296	655
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	733	584	41			
Volume Left	19	0	11			
Volume Right	0	19	30			
cSH	1001	1700	494			
Volume to Capacity	0.02	0.34	0.08			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.5	0.0	12.9			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	12.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			64.1%	ICU Level of Service	C	
Analysis Period (min)			15			

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 No-Build Weekday Evening Peak Hour










22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	25	11	136	364	6
Future Volume (Veh/h)	3	25	11	136	364	6
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	38	13	162	404	7
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	636	446	431			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	636	446	431			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	95	99			
cM capacity (veh/h)	609	747	1119			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	43	175	411			
Volume Left	5	13	0			
Volume Right	38	0	7			
cSH	728	1119	1700			
Volume to Capacity	0.06	0.01	0.24			
Queue Length 95th (ft)	5	1	0			
Control Delay (s)	10.3	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.3	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			49.5%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue & CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	347	446	88	137	6
Future Volume (Veh/h)	6	347	446	88	137	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	463	531	105	149	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	666				1122	644
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				1122	644
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				59	99
cM capacity (veh/h)	906				363	599
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	471	636	156			
Volume Left	8	0	149			
Volume Right	0	105	7			
cSH	906	1700	370			
Volume to Capacity	0.01	0.37	0.42			
Queue Length 95th (ft)	1	0	51			
Control Delay (s)	0.3	0.0	21.6			
Lane LOS	A		C			
Approach Delay (s)	0.3	0.0	21.6			
Approach LOS			C			
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization		47.3%		ICU Level of Service		A
Analysis Period (min)		15				

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	473	457	25	16	77
Future Volume (Veh/h)	11	473	457	25	16	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	631	544	30	17	84
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	604				1280	619
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	604				1280	619
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				94	86
cM capacity (veh/h)	956				306	614
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	646	574	101			
Volume Left	15	0	17			
Volume Right	0	30	84			
cSH	956	1700	525			
Volume to Capacity	0.02	0.34	0.19			
Queue Length 95th (ft)	1	0	18			
Control Delay (s)	0.4	0.0	13.5			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	13.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			51.7%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value









28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 7: Clark Street & Rear Driveway

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	0	21	15	0	78
Future Volume (Veh/h)	15	0	21	15	0	78
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	23	16	0	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	116	31			39	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	116	31			39	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	98	100			100	
cM capacity (veh/h)	880	1043			1571	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	39	85			
Volume Left	16	0	0			
Volume Right	0	16	0			
cSH	880	1700	1571			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.2	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.2	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		14.1%		ICU Level of Service		A
Analysis Period (min)		15				











28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 9: Massachusetts Avenue & West Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑↑	
Traffic Volume (veh/h)	0	489	462	0	10	20
Future Volume (Veh/h)	0	489	462	0	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	0	652	550	0	11	22
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	580				1262	610
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	580				1262	610
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				97	96
cM capacity (veh/h)	975				317	619
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	652	550	33			
Volume Left	0	0	11			
Volume Right	0	0	22			
cSH	1700	1700	470			
Volume to Capacity	0.38	0.32	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	13.2			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	13.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		42.2%		ICU Level of Service	A	
Analysis Period (min)		15				

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 11: Massachusetts Avenue & East Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	479	462	10	0	0
Future Volume (Veh/h)	20	479	462	10	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	27	639	550	12	0	0
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		0.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	592				1309	616
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	592				1309	616
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	994				168	480
Direction, Lane #	EB 1	WB 1				
Volume Total	666	562				
Volume Left	27	0				
Volume Right	0	12				
cSH	994	1700				
Volume to Capacity	0.03	0.33				
Queue Length 95th (ft)	2	0				
Control Delay (s)	0.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.7	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		57.8%	ICU Level of Service	B		
Analysis Period (min)		15				



















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	387	53	315	419	0	21	0	177	1	0	0
Future Volume (Veh/h)	0	387	53	315	419	0	21	0	177	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	516	71	375	499	0	25	0	208	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	714			705			2028	2134	884	2438	2169	823
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	714			705			2028	2134	884	2438	2169	823
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			53			75	100	62	98	100	100
cM capacity (veh/h)	712			793			101	19	548	66	17	261
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	587	874	233	1								
Volume Left	0	375	25	1								
Volume Right	71	0	208	0								
cSH	712	793	372	66								
Volume to Capacity	0.00	0.47	0.63	0.02								
Queue Length 95th (ft)	0	64	102	1								
Control Delay (s)	0.0	11.0	29.5	60.6								
Lane LOS		B	D	F								
Approach Delay (s)	0.0	11.0	29.5	60.6								
Approach LOS			D	F								
Intersection Summary												
Average Delay			9.8									
Intersection Capacity Utilization			90.5%		ICU Level of Service				E			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	470	1	10	508	108	0	10	21	72	24	223
Future Volume (Veh/h)	95	470	1	10	508	108	0	10	21	72	24	223
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	109	540	1	11	584	124	0	23	48	81	27	251
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	765			597			1804	1602	606	1552	1540	760
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	765			597			1804	1602	606	1552	1540	760
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	86			99			100	87	92	49	86	50
cM capacity (veh/h)	798			937			20	180	619	159	192	499
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	650	719	71	359								
Volume Left	109	11	0	81								
Volume Right	1	124	48	251								
cSH	798	937	345	311								
Volume to Capacity	0.14	0.01	0.21	1.15								
Queue Length 95th (ft)	12	1	19	374								
Control Delay (s)	3.4	0.3	18.1	136.0								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.4	0.3	18.1	136.0								
Approach LOS			C	F								
Intersection Summary												
Average Delay			29.2									
Intersection Capacity Utilization			102.7%		ICU Level of Service				G			
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	541	625	8	1	1
Future Volume (Veh/h)	22	541	625	8	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	622	718	9	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	735				1410	738
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	735				1410	738
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	874				275	568
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	647	727	8			
Volume Left	25	0	4			
Volume Right	0	9	4			
cSH	874	1700	371			
Volume to Capacity	0.03	0.43	0.02			
Queue Length 95th (ft)	2	0	2			
Control Delay (s)	0.8	0.0	14.9			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	14.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		58.6%		ICU Level of Service		B
Analysis Period (min)		15				

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Morning Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	39	32	29	339	166	9
Future Volume (Veh/h)	39	32	29	339	166	9
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	103	84	35	404	195	11
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	892	400	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	892	400	315			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	70	86	97			
cM capacity (veh/h)	347	618	1137			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	187	439	206			
Volume Left	103	35	0			
Volume Right	84	0	11			
cSH	432	1137	1700			
Volume to Capacity	0.43	0.03	0.12			
Queue Length 95th (ft)	54	2	0			
Control Delay (s)	19.6	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.6	1.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			60.4%	ICU Level of Service	B	
Analysis Period (min)			15			

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	441	250	167	125	6
Future Volume (Veh/h)	6	441	250	167	125	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	588	298	199	136	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	527				1062	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527				1062	458
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				65	99
cM capacity (veh/h)	1020				388	721
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	596	497	143			
Volume Left	8	0	136			
Volume Right	0	199	7			
cSH	1020	1700	397			
Volume to Capacity	0.01	0.29	0.36			
Queue Length 95th (ft)	1	0	40			
Control Delay (s)	0.2	0.0	19.1			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	19.1			
Approach LOS			C			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			45.8%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value












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 2025 Build Weekday Evening Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	554	411	26	21	6
Future Volume (Veh/h)	11	554	411	26	21	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	739	489	31	23	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	550				1334	564
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	550				1334	564
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				92	99
cM capacity (veh/h)	1000				290	648
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	754	520	30			
Volume Left	15	0	23			
Volume Right	0	31	7			
cSH	1000	1700	333			
Volume to Capacity	0.01	0.31	0.09			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.4	0.0	16.9			
Lane LOS	A		C			
Approach Delay (s)	0.4	0.0	16.9			
Approach LOS			C			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			54.3%	ICU Level of Service	A	
Analysis Period (min)			15			

\* User Entered Value









28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 7: Clark Street & Rear Driveway

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	0	22	16	0	12
Future Volume (Veh/h)	15	0	22	15	0	12
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	24	16	0	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	45	32			40	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45	32			40	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	965	1042			1570	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	40	13			
Volume Left	16	0	0			
Volume Right	0	16	0			
cSH	965	1700	1570			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			











28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 9: Massachusetts Avenue & West Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	↑
Traffic Volume (veh/h)	0	575	417	0	10	20
Future Volume (Veh/h)	0	575	417	0	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	0	767	496	0	11	22
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	526				1323	556
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	526				1323	556
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				96	97
cM capacity (veh/h)	1021				298	654
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	767	496	33			
Volume Left	0	0	11			
Volume Right	0	0	22			
cSH	1700	1700	467			
Volume to Capacity	0.45	0.29	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	13.3			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	13.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization		46.7%		ICU Level of Service	A	
Analysis Period (min)		15				

\* User Entered Value



















28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 11: Massachusetts Avenue & East Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	565	417	10	0	0
Future Volume (Veh/h)	20	565	417	10	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	27	753	496	12	0	0
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		0.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	538				1369	562
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	538				1369	562
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	1040				154	515
Direction, Lane #	EB 1	WB 1				
Volume Total	780	508				
Volume Left	27	0				
Volume Right	0	12				
cSH	1040	1700				
Volume to Capacity	0.03	0.30				
Queue Length 95th (ft)	2	0				
Control Delay (s)	0.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.7	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		62.2%	ICU Level of Service		B	
Analysis Period (min)		15				



28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	490	22	128	370	2	20	1	369	1	1	3
Future Volume (Veh/h)	3	490	22	128	370	2	20	1	369	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	527	24	145	420	2	22	1	410	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	449			558			1290	1291	573	1720	1302	469
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	449			558			1290	1291	573	1720	1302	469
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			86			92	100	38	97	99	99
cM capacity (veh/h)	1093			1011			271	270	656	63	266	719
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	554	567	433	9								
Volume Left	3	145	22	2								
Volume Right	24	2	410	5								
cSH	1093	1011	610	196								
Volume to Capacity	0.00	0.14	0.71	0.05								
Queue Length 95th (ft)	0	12	145	4								
Control Delay (s)	0.1	3.6	24.0	24.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.6	24.0	24.3								
Approach LOS			C	C								

















Intersection Summary

Average Delay	8.1		
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	646	2	3	431	101	1	3	9	42	4	74
Future Volume (Veh/h)	221	646	2	3	431	101	1	3	9	42	4	74
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	238	695	2	3	490	115	2	5	15	52	5	91
Pedestrians		21			16			21			19	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	624			718			1861	1823	733	1778	1766	588
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	624			718			1861	1823	733	1778	1766	588
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	75			100			98	96	97	63	96	86
cM capacity (veh/h)	935			875			112	133	559	139	141	646
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	935	608	22	148								
Volume Left	238	3	2	52								
Volume Right	2	115	15	91								
cSH	935	875	267	269								
Volume to Capacity	0.25	0.00	0.08	0.55								
Queue Length 95th (ft)	25	0	7	76								
Control Delay (s)	5.9	0.1	19.7	33.7								
Lane LOS	A	A	C	D								
Approach Delay (s)	5.9	0.1	19.7	33.7								
Approach LOS			C	D								
Intersection Summary												
Average Delay			6.4									
Intersection Capacity Utilization			100.4%		ICU Level of Service					G		
Analysis Period (min)			15									

\* User Entered Value












28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	679	515	17	7	19
Future Volume (Veh/h)	18	679	515	17	7	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	19	730	585	19	11	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	604				1362	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	604				1362	594
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				96	95
cM capacity (veh/h)	984				297	666
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	749	604	41			
Volume Left	19	0	11			
Volume Right	0	19	30			
cSH	984	1700	499			
Volume to Capacity	0.02	0.36	0.08			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.5	0.0	12.9			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	12.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			60.2%	ICU Level of Service		B
Analysis Period (min)			15			

\* User Entered Value



28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis  
 2025 Build Weekday Evening Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	25	11	139	365	6
Future Volume (Veh/h)	3	25	11	139	365	6
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	38	13	165	406	7
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	640	448	433			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	640	448	433			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	95	99			
cM capacity (veh/h)	606	746	1118			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	43	178	413			
Volume Left	5	13	0			
Volume Right	38	0	7			
cSH	726	1118	1700			
Volume to Capacity	0.06	0.01	0.24			
Queue Length 95th (ft)	5	1	0			
Control Delay (s)	10.3	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.3	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization		49.7%		ICU Level of Service	A	
Analysis Period (min)		15				

\* User Entered Value



## Comments on Proposed Hotel/Restaurant at 1207-1211 Mass Ave, Arlington

### Docket # 3602 – Special Permit and Environmental Design Review

To: Andrew Bunnell, Chair, Arlington Redevelopment Board and Jenny Raitt, ARB Secretary Ex Officio  
jraitt@town.arlington.ma.us; EZwirko@town.arlington.ma.us; ABunnell@town.arlington.ma.us;  
DWatson@town.arlington.ma.us; KLau@town.arlington.ma.us; rzsemlery@town.arlington.ma.us;  
EBenson@town.arlington.ma.us

From: Ann LeRoyer, 12 Peirce St., Arlington, 781-646-7254, annleroyer12@gmail.com, TMM Precinct 17

Date: June 29, 2020

These comments reiterate and expand on some of the statements that other neighbors and I made during the ARB's continued public hearing on this proposal on May 18, 2020.

#### Regarding the 5/11/20 Letter from Mary Winstanley O'Connor (Doherty lawyer) to Jenny Raitt

**1. Bonus FAR** – "The petitioner is proposing 'public access' space which will provide for a public art and presentation area located in the front right area of the Property. As such, the Property ... is entitled to a 10% increase in FAR."

Is that argument, the provision of public access space, sufficient to grant increased FAR? Such access would be weather-dependent, and thus would be in effect only during summer months. Further, no plan or design has yet been provided to justify this request. No decision about bonus FAR in exchange for "public access" should be considered until it is vetted more thoroughly.

Members of the neighborhood have already expressed concerns about noise and hours of operation of the proposed outdoor patio seating/dining area. Adding additional outdoor activity is also problematic and requires more explanation.

**2. Parking** – The petitioner is requesting a reduction in required parking, but has not yet provided any details about how they will accommodate overflow from hotel usage or the parking needs for restaurant clients and employees. As the neighbors have noted previously, the additional traffic and parking activity generated by this proposed project are of grave concern. Further information is needed to address how these various parking needs will be accommodated so that the nearby residential streets (Clark, Peirce and Locke) are not overburdened as a result.

Although hotel parking is to be handled by a valet, he/she will still be driving in and out of the parking area on Clark Street many times a day, and will have to make either a difficult left turn onto a busy Mass Ave or drive around the block on Peirce and Forest Streets to reach the front of the hotel. What about when the valet is absent, unavailable or too busy? What about hotel or restaurant customers who may not know the rules regarding self-parking under the hotel? Again, much more information is needed on how these issues will be addressed.



We look forward to seeing the comprehensive traffic study that the ARB has requested before we can comment further about this complicated parking/traffic situation.

**3. Upper Story Step Back (setback)** – The petitioner is asking to reduce or eliminate the required step back on the 4<sup>th</sup> floor. She argues that this mixed-use project "contains a boutique hotel on substantially unimproved lots." In fact, the B-4 vehicle-related lot is owned by James Doherty and his real estate trust. He has owned it since 2012, so he is responsible for its "unimproved" appearance, including abandoned vehicles, stacks of tires and other trash, and storage containers.

A second argument for a step back waiver states that "in order to be successful, there must be adequate room revenue" (i.e., presumably additional space on the 4<sup>th</sup> floor for more rooms or higher room rates). Is it the ARB's responsibility to worry about the financial success of this project and to take such issues into consideration when granting extra FAR and step back flexibility?

In earlier correspondence on January 7, 2020, Jenny Raitt noted in item 6 that "DPCD has not received a marketing study of similar hotels" as previously requested. In her January 21, 2020 letter in reply, Ms. O'Connor stated, "The petitioner will not be providing this information as it is proprietary and is not relevant to the relief requested." But, how can the ARB determine if a decision about the step back would or would not contribute to the project's success if it cannot know what the hotel's marketing and business plan is meant to achieve?

Both of these arguments seem to me to be completely irrelevant and specious. The Town Counsel's letter of May 13, 2020 clarifies that upper story step backs should start on the 4<sup>th</sup> floor in this particular case, and the ARB should not consider any flexibility on that issue.

### **Regarding the 5/14/20 Memo from Jenny Raitt on outstanding information still needed**

Ms. Raitt itemizes many missing plans and documents based on her previous January 21, 2020 checklist, and we also look forward to seeing more details about these concerns, especially the need for more extensive traffic studies. In light of two recent bicycle accidents (one of them fatal) at the corner of Mass Ave. and Appleton St., extra scrutiny is required regarding traffic patterns in this section of the Mass Ave. corridor. Other committees, such as the Transportation Advisory Committee and the Bicycle Advisory Committee, are also looking into this difficult section of roadway, and all of their findings should be considered together as part of this special permit.

The Covid-19 pandemic has added further concern about the validity of the petitioner's forthcoming traffic study, since normal pedestrian and car activity in general, but especially traffic related to the Ottoson School, Children's Place and St. Athanasius Greek Church, has been curtailed for several months when presumably such studies would have been done. Input from all of these neighborhood institutions should be solicited as well.

### **Further questions/concerns**

Parking – only 1 spot is designated for handicapped parking in the hotel parking area – is that sufficient for expected hotel usage, and does it meet town requirements?

Interior reconstruction in the former Nicola's Pizza shop at Clark St./Mass Ave. has started for conversion to a liquor store, so that future usage also needs to be factored into the analysis of traffic and parking in the area.



The probable loss of several large trees behind the DAV building is not addressed in Ms. Raitt's 5/14/20 memo, but has been raised in previous correspondence and hearings. This possibility continues to be a concern in terms of its impact on neighborhood character, and I would like an opinion from the Tree Warden or other relevant official as to regulations protecting mature trees in such a situation.

A related concern is the height and massing of the proposed structure, especially as viewed from residences on Peirce Street. As discussed at the hearing on May 18, a more complete and accurate set of architectural plans, elevations and other details need to be provided in order to gain a true sense of how this building will affect the neighborhood.

At the May 18 hearing, Carol MacDonald of 1182 Mass Ave. mentioned that this site was formerly a gas station, and that gas tanks might have created contamination on the site. I hope that is being investigated as well.

What recourse will neighbors have in years to come if this hotel project is built but creates even worse traffic or other problems for the area? This developer/landowner has a poor history of caretaking the 1211 Mass Ave. property. The town also has not been a good steward of the DAV property, which is now abandoned and overgrown with weeds.

I think we can all agree that some redevelopment of the two properties at 1207-1211 Mass Ave will be beneficial and is long overdue, but **this particular hotel/restaurant project as presented to date is too large for the site already**, and the developer is asking for even more space (bonus FAR, less step back).

There are so many outstanding concerns and incomplete information that it is difficult to know what to expect. I look forward to seeing the additional plans and traffic studies already requested by the ARB, and to further discussion at the July 6 public hearing.

Thank you for your consideration of these ongoing concerns.

Ann LeRoyer



**From:** Barbara McCauley <jbmccauley@comcast.net>  
**Date:** July 2, 2020 at 7:31:56 AM EDT  
**To:** "jraitt@town.arlington.ma.us" <jraitt@town.arlington.ma.us>  
**Subject:** Hotel Lexington

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Dear Ms. Raitt,

I hope I am not too late to submit comments to you on the issue of the proposed hotel/restaurant. I will admit that I had hoped that the downturn in the economy would lead the builder to give up the idea, but apparently that is not the case, as the hearing is still scheduled. I have attended all the hearings on this issue and will be present for this one as well.

My husband and I own a townhouse in the two-building Shaker-style condo complex at the corner of Mass Ave and Burton Street. Our 35 year old deaf son lives with us. When school is in session, many of the middle school students walk or bike past our home. I can see, from my kitchen window, that many of them ignore the crossing guards and instead just cross Mass Ave in the middle of the street. The recent bicycle accidents on this block have sadly illustrated the additional dangers of the intersection of Appleton Street and Mass Ave. There will be a dramatic increase in traffic on this block when the 140 units of the Mirak project (which I strongly support) are completed. It is troubling that the Lexington Hotel builder, having neglected to do a traffic study while school was in session, now proposes to draw on studies done in the past; one has to ask how meaningful those studies will be.

Other concerns:

The hotel will have only valet parking for guests, so the guests with cars will likely choose to have their cars retrieved from the garage in the morning and then park them on the street during the day, so they can easily come and go. Restaurant customers will also park on the street. Where will the customers of the dry cleaners and the mosaic studio and animal clinic and the beauty salon park? We already see commuters take the spots on Burton Street early in the morning and ride the bus into Cambridge and Boston for the day.

The builder of the hotel has promised that there will be no idling of buses in front of the hotel, as they wait to load guests going to Lexington, but what will they do in the heat of summer? Leave the engines and air conditioning off as the driver and passengers stand outside in the heat until it's time for the bus to leave?

It is hard to support the concept of a hotel that is apparently named to attract tourists who google "Lexington hotel" and will want to *leave* Arlington to tour Lexington. All the neighbors abutting our home share my concerns and attended all the hearings which were held before the pandemic. Many of them have lived in Arlington all their lives, but they are not all so zoom-proficient and I fear that you will interpret their absence from hearings now as indifference. It is troubling to think that such a big decision is being made when community participation is so challenging. I hope that when a final decision is made you will recall the community turnout and concerns voiced at that first meeting in Town Hall last year....

Thank you.

Sincerely,



Barbara McCauley

1184 Massachusetts Ave  
Arlington 02476



**From:** Don Seltzer <timoneer@gmail.com>  
**Date:** May 1, 2020 at 11:01:20 AM EDT  
**To:** Erin Zwirko <EZwirko@town.arlington.ma.us>  
**Cc:** Jenny Raitt <JRaitt@town.arlington.ma.us>  
**Subject:** Visual for May 4 ARB meeting

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Erin,

I am attaching a pdf file that I would like to have displayed during Monday's ARB Zoom meeting. It relates to the upcoming hearing of the Lexington Hotel proposal for the following meeting.

With Monday's agenda very light, I wanted to present it to the Board well in advance, to permit the hotel architects time to respond and correct their materials before the May 18 hearing date.

I do not expect to be on the agenda, I simply want to present this material during the citizen's open forum.

Thank you,

Don Seltzer



June 23, 2020

Andrew Bunnell, Esq., Chairperson  
Arlington Redevelopment Board  
733 Massachusetts Avenue  
Arlington, MA 02476

Re: 1207 - 1211 Massachusetts Avenue, Arlington, MA  
Docket No. 3602

Dear Mr. Bunnell:

This letter shall confirm that, in the event the special permit is granted in the above-referenced matter, I will rent two (2) parking spaces on Lowell Street, to be utilized by employees of the proposed hotel.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Carter Knight', with a long horizontal line extending to the right.

Carter Knight  
Davidson Management



June 23, 2020

Andrew Bunnell, Esq., Chairperson  
Arlington Redevelopment Board  
733 Massachusetts Avenue  
Arlington, MA 02476

Re: 1207 - 1211 Massachusetts Avenue, Arlington, MA  
Docket No. 3602

Dear Mr. Bunnell:

This letter shall confirm that, in the event the special permit is granted in the above-referenced matter, I will rent six (6) parking spaces at 24 Ryder Street, to be utilized by employees of the proposed mixed use development. The space would be available from afternoon until late at night.

Very truly yours,

Dante Muzzioli, Trustee  
24 Ryder Street Realty Trust

{00082093 | }



From: Don Seltzer <timoneer@gmail.com>  
To: Jenny Raitt <jraitt@town.arlington.ma.us>, Erin Zwirko <EZwirko@town.arlington.ma.us>  
Date: Mon, 18 May 2020 09:45:16 -0400  
Subject: Correspondence Docket 3602 - Table of Uses

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## To the Redevelopment Board

In reviewing the latest submission of the applicant for 1207-1211 I noticed that a key argument is based upon the assumption that the principal use of the proposed project is not residential. There seems to be some confusion over the distinction between residential district and residential use. The attached table from the zoning bylaw clarifies that a hotel is defined as a residential use (by special permit) in a B4 district. This particular project does not meet the requirements of 5.3.6 for bonus provisions.

Don Seltzer



### 5.5.3. Use Regulations for Business Districts

Class of Use	B1	B2	B2A	B3	B4	B5
<b>Residential</b>						
Single-family detached dwelling	Y	Y	Y	Y	Y	Y
Two-family dwelling, duplex dwelling	Y	Y	Y	Y	Y	Y
Six or more single-family dwellings or six or more units in two-family dwellings or duplex dwellings on one or more contiguous lots	SP	SP	SP	SP	SP	SP
Three-family dwelling	SP	SP	SP	SP	SP	SP
Townhouse	SP	SP	DP	SP		SP
Apartment building		SP	SP	SP	SP	SP
Conversion to apartments, up to 18 units per acre, with no alteration to the exterior of the building	SP					
Single-room occupancy building	SP					SP
Group home	Y	Y	Y	Y	Y	Y
Hotel/Motel			SP	SP	SP	SP
Conversion of one or two-family dwelling to bed and breakfast	SP	SP	SP	SP	SP	SP
Assisted living residence				SP		
Dormitory (Note: permitted if use is for educational or religious purposes.)	Y	Y	Y	Y	Y	Y
<b>Institutional, Educational</b>						
Community center, youth club, adult education center, or similar facility operated by a non-profit institution (Note: permitted if use is for educational or religious purposes.)	SP	SP		SP		SP
Nonprofit, members-only private club or lodge	SP	SP	SP	SP	Y	SP
Non-exempt educational use, e.g., trade, driving, music, dancing school		Y	Y	Y	Y	Y
Library, museum, or art gallery open to the public and not conducted as a private gainful business. (Note: permitted if use is for educational or religious purposes.)	SP	SP	SP	SP		SP

Town of Arlington Zoning Bylaw





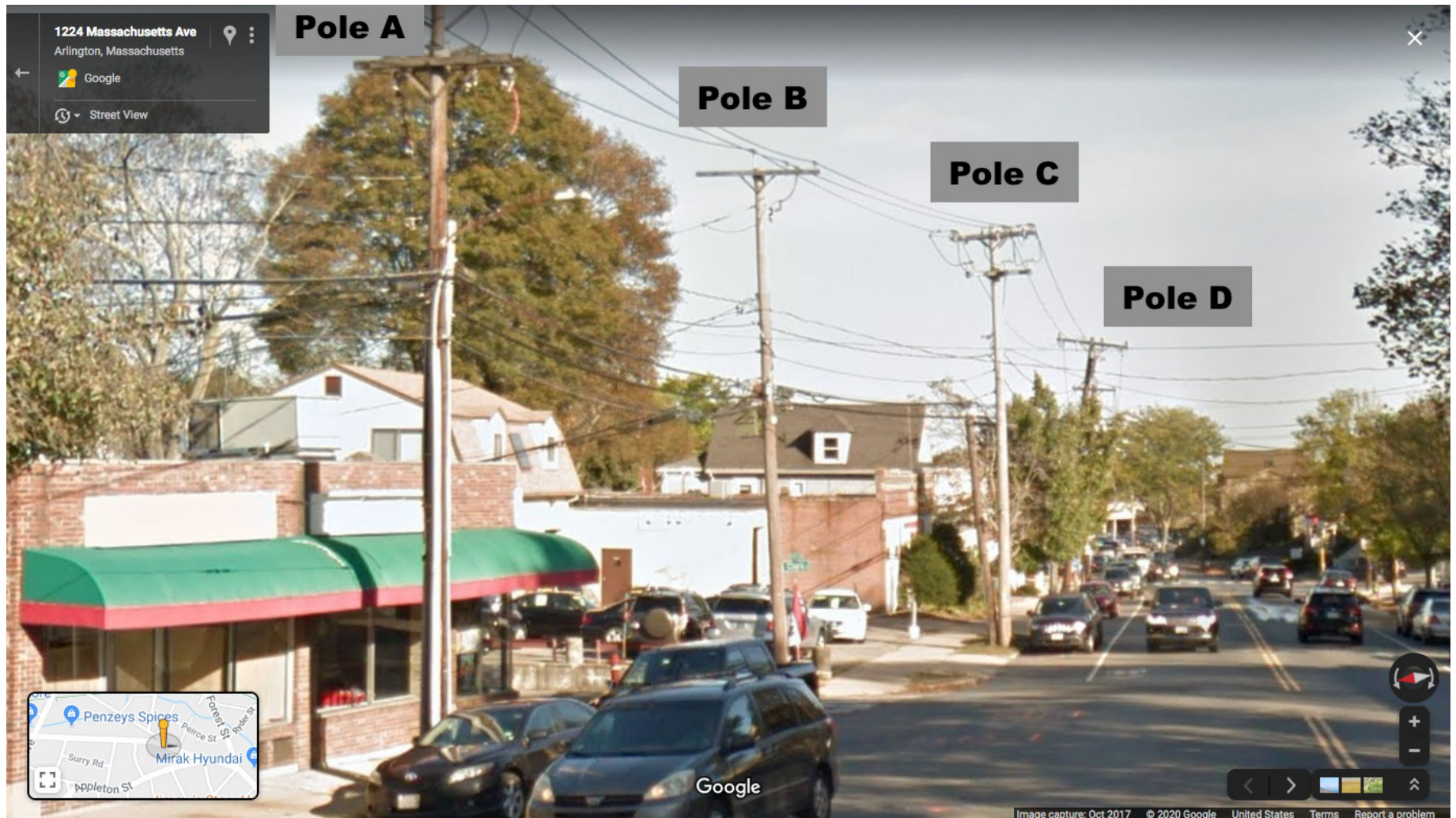


# Hotel Lexington - Misleading Architectural Visualization





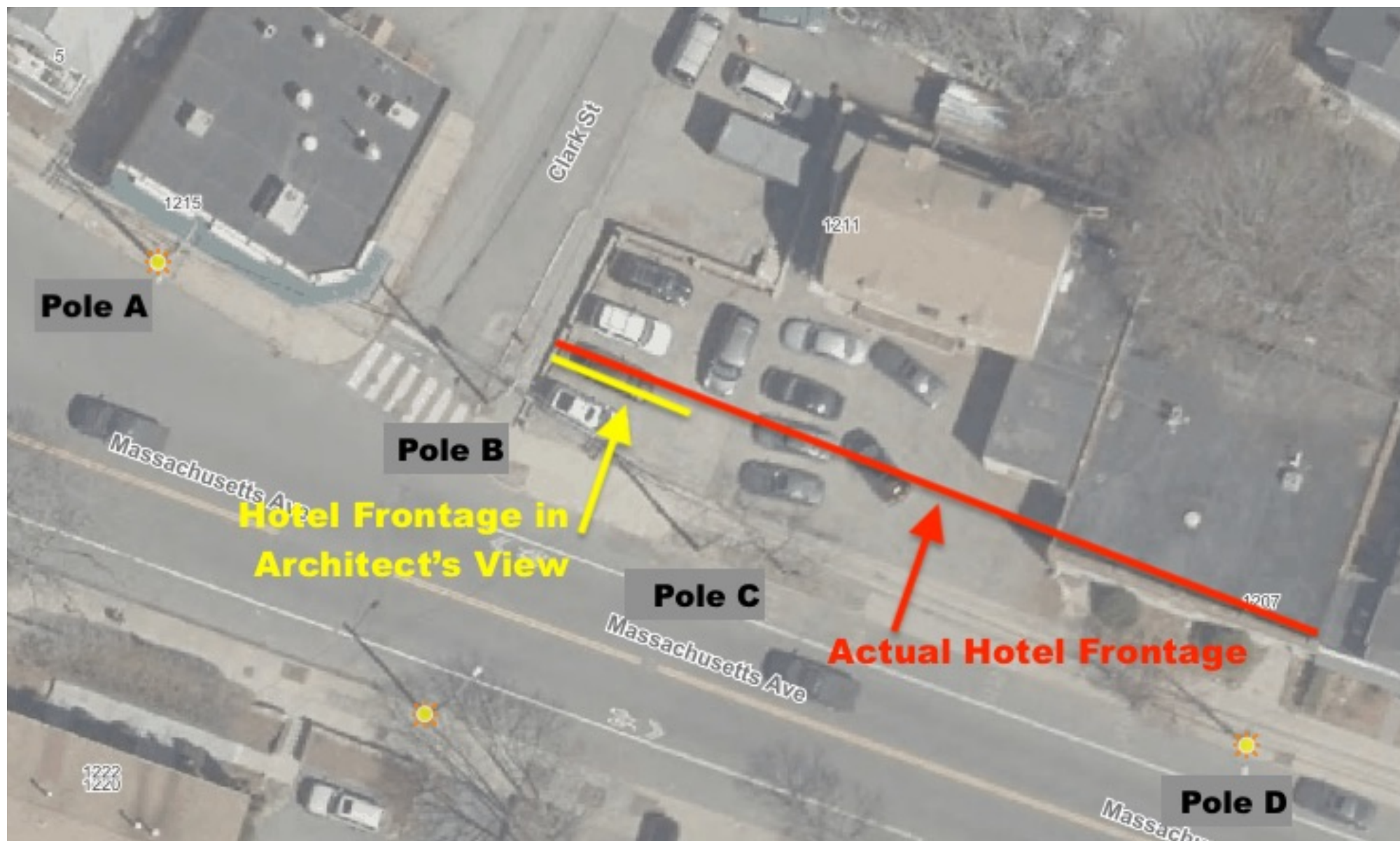
# View Today















TOWN OF ARLINGTON  
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design  
Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. \_\_\_\_\_

1. Property Address 882-892 Massachusetts Ave  
Name of Record Owner(s) 882-892 Massachusetts Ave, LLC Phone 781-654-6306  
Address of Owner 452 Massachusetts Ave, Ste 203, Arlington, MA 02474  
Street City, State, Zip
2. Name of Applicant(s) (if different than above) Same as above  
Address \_\_\_\_\_ Phone \_\_\_\_\_  
Status Relative to Property (occupant, purchaser, etc.) \_\_\_\_\_
3. Location of Property Map 126, Block 1, Lots 6 and 7  
Assessor's Block Plan, Block, Lot No.
4. Deed recorded in the Registry of deeds, Book 1523, Page 101;  
-or- registered in Land Registration Office, Cert. No. \_\_\_\_\_, in Book \_\_\_\_\_, Page \_\_\_\_\_.
5. Present Use of Property (include # of dwelling units, if any) Retail, Service, Restaurant
6. Proposed Use of Property (include # of dwelling units, if any) Mixed-Use  
22 Apartment Units, 1,300 SF Retail
7. Permit applied for in accordance with \_\_\_\_\_ 3.4 \_\_\_\_\_ Environmental Design Review  
the following Zoning Bylaw section(s) 5.5.2 \_\_\_\_\_ Dimensional and Density Regulations  
SP \_\_\_\_\_ (Mixed-Use <=20,000SF)  
section(s) title(s)
8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.  
See Attached

(In the statement below, strike out the words that do not apply)

The applicant states that 882-892 Massachusetts Ave, LLC is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 882-892 Massachusetts Ave which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

\_\_\_\_\_  
Signature of Applicant(s)

\_\_\_\_\_  
Address

\_\_\_\_\_  
Phone





Town of Arlington Redevelopment Board  
Application for Special Permit in accordance with  
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested. Review the ARB's Rules and Regulations, which can be found at [arlingtonma.gov/arb](http://arlingtonma.gov/arb), for the full list of required submittals.

- X   Dimensional and Parking Information Form (see attached)
- X   Site plan of proposal
- N/A  Model, if required
- X   Drawing of existing conditions
- X   Drawing of proposed structure
- X   Proposed landscaping. May be incorporated into site plan
- X   Photographs
- X   Impact statement
- N/A  Application and plans for sign permits
- X   Stormwater management plan (for stormwater management during construction for projects with new construction)

FOR OFFICE USE ONLY

_____	Special Permit Granted	Date: _____
_____	Received evidence of filing with Registry of Deeds	Date: _____
_____	Notified Building Inspector of Special Permit filing	Date: _____



## TOWN OF ARLINGTON REDEVELOPMENT BOARD

### Petition for Special Permit under Environmental Design Review (see Section 3.4 of the Arlington Zoning Bylaw for Applicability)

For projects subject to Environmental Design Review, (see Section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. **Preservation of Landscape.** The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.
2. **Relation of Buildings to Environment.** Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing to reduce the effect of shadows on abutting property in an R0, R1 or R2 district or on public open space.
3. **Open Space.** All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.
4. **Circulation.** With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.
5. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.

In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

6. **Utility Service.** Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.
7. **Advertising Features.** The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.



8. **Special Features.** Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.
9. **Safety.** With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.
10. **Heritage.** With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.
11. **Microclimate.** With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.
12. **Sustainable Building and Site Design.** Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project. [LEED checklists can be found at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b> ]

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw):

1. The use requested is listed as a special permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.
2. The requested use is essential or desirable to the public convenience or welfare.
3. The requested use will not create undue traffic congestion or unduly impair pedestrian safety.
4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.
5. Any special regulations for the use as may be provided in this Bylaw are fulfilled.
6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.
7. The requested use will not, by its addition to a neighborhood, cause an excess of the particular use that could be detrimental to the character of said neighborhood.



# TOWN OF ARLINGTON

Dimensional and Parking Information  
for Application to  
The Arlington Redevelopment Board

Docket No. \_\_\_\_\_

Property Location 882-892 Massachusetts Ave

Zoning District B2

Owner: 882-892 Massachusetts Ave, LLC

Address: 452 Massachusetts Ave, Arlington, MA

Present Use/Occupancy: No. of Dwelling Units:

Retail, Service, Restaurant

Uses and their gross square feet:

1-Story 5,016 SF

Proposed Use/Occupancy: No. of Dwelling Units:

Mixed-Use, 22 Apartment Units & 1,300 SF Retail

Uses and their gross square feet:

4-Story Mixed-Use 17,720 GSF

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	14,381 SF	14,381 SF	min. ----
Frontage	208 FT	208 FT	min. ----
Floor Area Ratio	0.35	1.23	max. 1.5
Lot Coverage (%), where applicable	34.9%	30.8%	max. ----
Lot Area per Dwelling Unit (square feet)	N/A	654 SF	min. ----
Front Yard Depth (feet)	0 FT	2.7 FT	min. ----
Side Yard Width (feet) right side	--	--	min. ----
left side	1.3 FT	3.4 FT	min. ----
Rear Yard Depth (feet)	53.6 FT	63.0 FT	min. 20.3 FT
Height	----	-----	min. -----
Stories	1-STORY	4-STORY	stories 4-STORY
Feet	13.5 FT	46 FT	feet 50 FT
Open Space (% of G.F.A.)	-----	-----	min. -----
Landscaped (square feet)	760 SF	2,083 SF(20.1%)	(s.f.) 1,438 SF (10%)
Usable (square feet)	0 SF	60 SF(0.4%)	(s.f.) 2,876 SF (20%)
Parking Spaces (No.)	UNKNOWN	25 SPACES	min. 25 SPACES
Parking Area Setbacks (feet), where applicable	0 FT	5 FT	min. 5 FT
Loading Spaces (No.)	N/A	N/A	min. N/A
Type of Construction	NEW CONSTRUCTION		
Distance to Nearest Building	12.1 FT	18.6 FT	min.

Includes landscaped  
space & walks per  
definition.

Includes Bike  
Storage Pad per



June 23, 2020

Jennifer Raitt  
Director of Planning & Community  
Development  
730 Massachusetts Ave  
Arlington, MA 02476

RE: Mixed-Use Redevelopment  
Drainage Summary Letter  
882-892 Massachusetts Ave  
Arlington, MA 02476

Dear Ms. Raitt,

On behalf of our Client, 882-892 Massachusetts Ave, LLC, Allen & Major Associates (A&M) is pleased to provide this letter in support of the Special Permit application for the Mixed-Use Redevelopment project at 882-892 Massachusetts Ave. This letter will summarize the changes to the stormwater management system which are proposed as part of the redevelopment efforts.

**Existing Conditions**

The site is located on the corner of Lockeland Avenue and Massachusetts Avenue with access to the parking area from Lockeland Avenue. It is comprised of two property's, identified on the City tax Map 126, Block 1, Lots 6 and 7. Lot 6 is predominantly covered by an existing 1-story brick building, approximately 4,786 square feet. Lot 7 is predominantly covered by paved parking area. Elevations onsite range from elevation 79 to elevation 80. Elevation 79 is the low point on-site located at the existing catch basin, and elevation 80 runs along the southern property line. Stormwater sheet flows from the paved parking lot to onsite to the existing catch basin which discharges to the existing municipal system via an 8" cast iron pipe. The majority of the stormwater from the site discharges through this connection including the roof drainage and parking lot. A review of the NRCS soil report for Middlesex County indicates that the soil onsite is considered Merrimac-Urban Land which has a Hydrologic Soil Group rating of an "A". A copy of the Existing Watershed Plan is included herewith.

**Proposed Conditions**

The project, proposes to demolish the existing structure to construct a 4-story, 4,400 square foot Mixed-Use building with apartment and retail uses. There are 22 apartment units proposed and a 1,300 square foot retail component. The parking area is proposed to be reconstructed within the constraints of the existing pavement area. The stormwater management system will be improved with the installation of a new catch basin with a sump and hood at the outlet pipe to provide stormwater treatment. The quantity of stormwater runoff will be reduced with the installation of landscaped areas on-site. The proposed work will result in approximately 2,083 square feet of impervious material being replaced with landscaped areas.

Runoff flows were estimated for both pre and post development conditions using HydroCAD 10.00 software, at two specific "Study Points" (SP-1 & SP-2). Study Point 1 is the flows that will enter the on-site catch basin and discharge to the municipal drainage system. Study Point 2 is the stormwater flows that will flow onto Massachusetts Ave, and be collected within the street catch basins. The table below shows that the project causes a reduction in the peak rate of runoff and volume of stormwater leaving the site at both Study Points. Copies of the HydroCAD worksheets and Watershed Plans are included herewith.



<b>STUDY POINT #1</b> (flow to on-site catch basin)			
	2-Year	10-Year	100-Year
Existing Flow (CFS)	1.02	1.55	2.83
Proposed Flow (CFS)	0.82	1.37	2.69
<b>Decrease (CFS)</b>	<b>0.20</b>	<b>0.18</b>	<b>0.14</b>
Existing Volume (CF)	3,400	5,267	9,812
Proposed Volume (CF)	2,476	4,239	8,661
<b>Decrease (CF)</b>	<b>924</b>	<b>1,028</b>	<b>1,151</b>

<b>STUDY POINT #2</b> (flow to Mass Ave )			
	2-Year	10-Year	100-Year
Existing Flow (CFS)	0.06	0.09	0.16
Proposed Flow (CFS)	0.03	0.06	0.14
<b>Decrease (CFS)</b>	<b>0.03</b>	<b>0.03</b>	<b>0.02</b>
Existing Volume (CF)	192	297	554
Proposed Volume (CF)	88	180	434
<b>Decrease (CF)</b>	<b>104</b>	<b>117</b>	<b>120</b>

The surface water drainage requirements of the Town of Arlington Zoning Bylaw Environmental Design Review Standards have been reviewed and met with the proposed design. The proposed project will introduce landscaped areas to the site to reduce the impervious area, and a new catch basin is proposed with a sump and hood at the outlet pipe to provide stormwater treatment. The Town of Arlington, Article 15 Stormwater Mitigation, shall not apply as the proposed development will introduce a reduction in impervious area. However, with the proposed landscaped areas the project will reduce the runoff rates for all design storms, and comply with this bylaw.

### **Summary**

As shown in the table above, the proposed development will have a positive impact on the stormwater management system by reducing the rate and volume of stormwater runoff from the site.

Very truly yours,

ALLEN & MAJOR ASSOCIATES, INC.

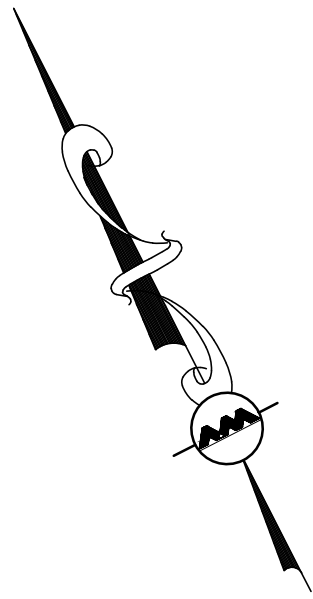
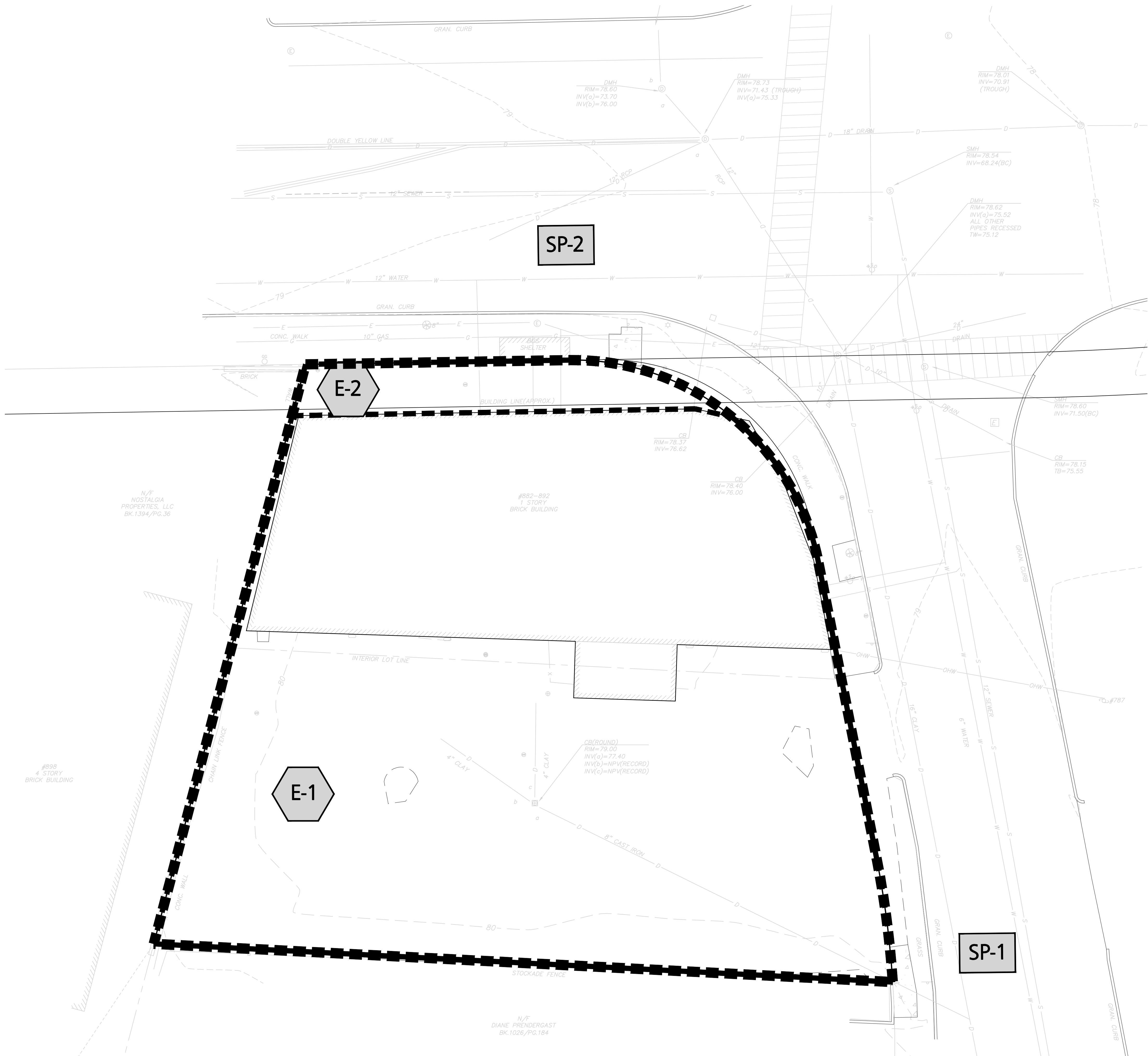
Aaron Mackey, PE  
Project Engineer



Attachments:

1. Existing Watershed Plan
2. Proposed Watershed Plan
3. Pre development HydroCAD Calculations
4. Post development HydroCAD Calculations
5. Extreme Precipitation Tables
6. NRCS Soil Report





LEGEND

EXISTING WATERSHED

---

SUBCATCHMENT BOUNDARY

---

SUBCATCHMENT LABEL

E-1

2	06/17/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB
REV	DATE	DESCRIPTION

APPLICANT/OWNER:  
882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
SCALE:	1" = 10'	DWG. NAME:	C2729-01
DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC

PREPARED BY:



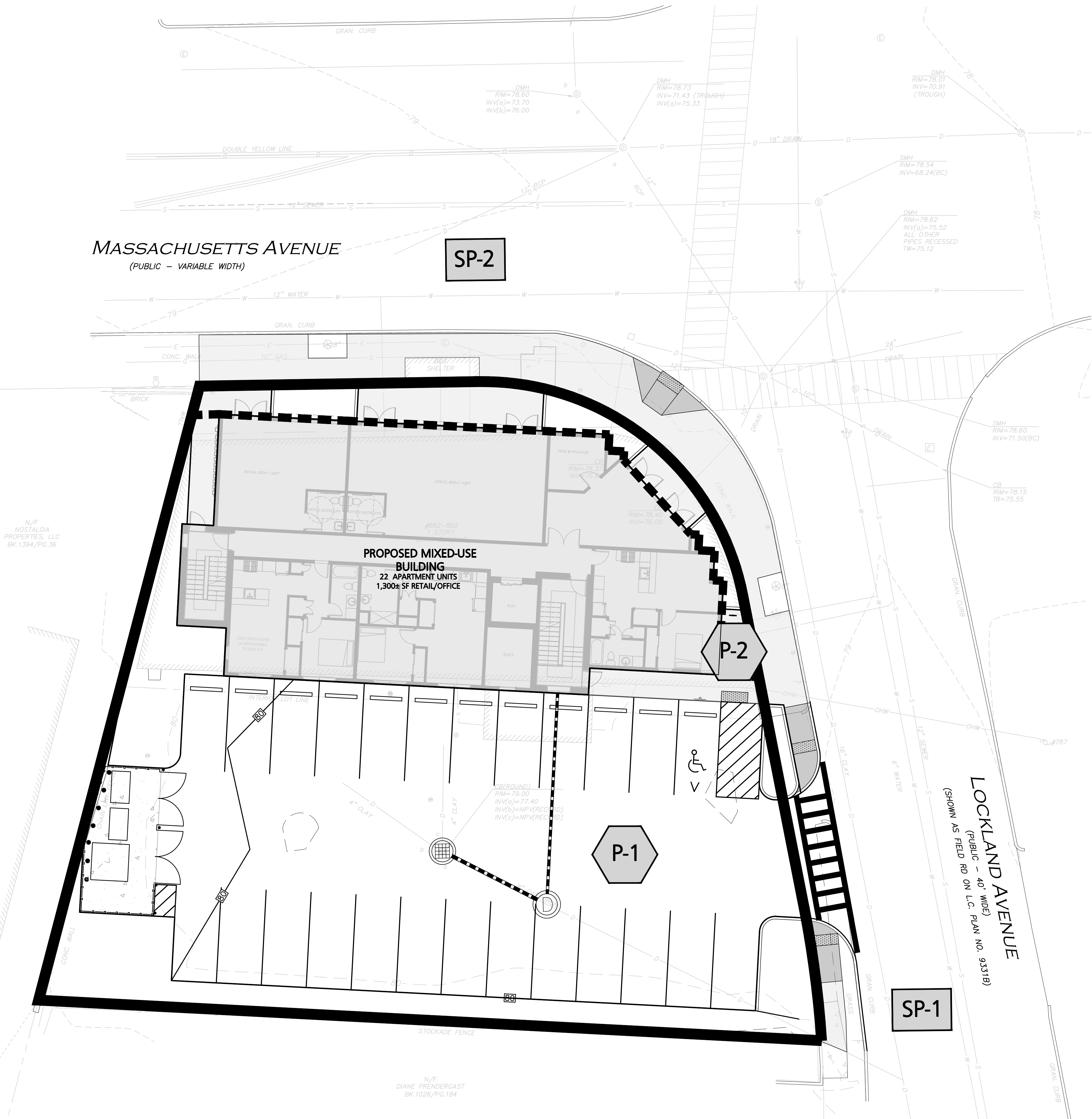
**ALLEN & MAJOR ASSOCIATES, INC.**  
civil engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
100 COMMERCE WAY, SUITE 5  
WOBURN MA 01801  
TEL: (781) 935-6889  
FAX: (781) 935-2896

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DRAWING TITLE:	SHEET No.
EXISTING WATERSHED PLAN	EWP





LEGEND

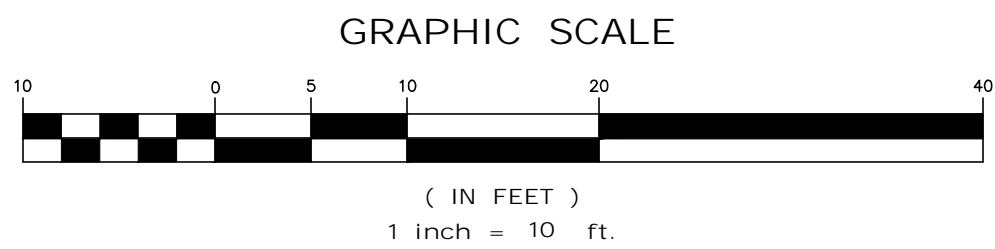
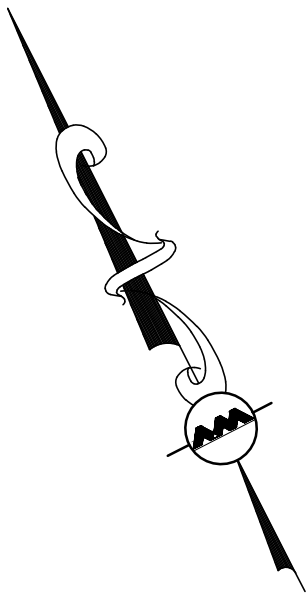
EXISTING WATERSHED

PROPOSED WATERSHED

SUBCATCHMENT LABEL

SUBCATCHMENT BOUNDARY

P-1



2	06/23/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB
REV	DATE	DESCRIPTION

APPLICANT/OWNER:  
882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

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PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.

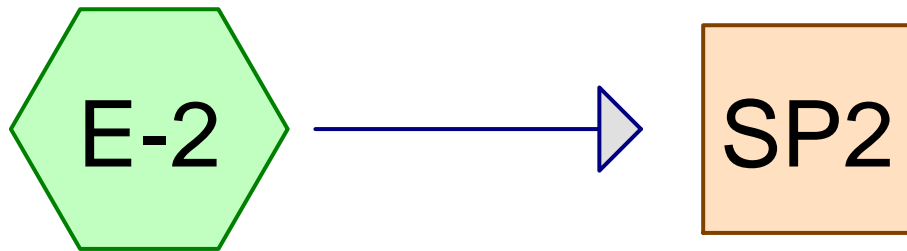
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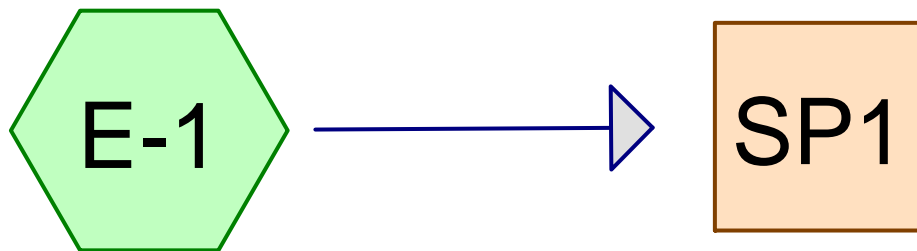
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PROPOSED WATERSHED PLAN	PWP





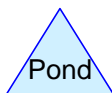
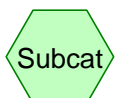
Subcat E-2

Study Point 2



Subcat E-1

Study Point 1





## 2729-01\_Existing-Conditions

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Page 2

### Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
9,372	98	Paved parking, HSG A (E-1, E-2)
5,008	98	Roofs, HSG A (E-1)
<b>14,381</b>	<b>98</b>	<b>TOTAL AREA</b>



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### Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
14,381	HSG A	E-1, E-2
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
<b>14,381</b>		<b>TOTAL AREA</b>



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**Ground Covers (all nodes)**

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchment Numbers
9,372	0	0	0	0	9,372	Paved parking	E-1, E-2
5,008	0	0	0	0	5,008	Roofs	E-1
<b>14,381</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,381</b>	<b>TOTAL AREA</b>	



## 2729-01\_Existing-Conditions

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Type III 24-hr 2-Year Rainfall=3.23"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

### Subcatchment E-1: Subcat E-1

Runoff Area=13,613 sf 100.00% Impervious Runoff Depth=3.00"  
Tc=5.0 min CN=98 Runoff=1.02 cfs 3,400 cf

### Subcatchment E-2: Subcat E-2

Runoff Area=768 sf 100.00% Impervious Runoff Depth=3.00"  
Tc=5.0 min CN=98 Runoff=0.06 cfs 192 cf

### Reach SP1: Study Point 1

Inflow=1.02 cfs 3,400 cf  
Outflow=1.02 cfs 3,400 cf

### Reach SP2: Study Point 2

Inflow=0.06 cfs 192 cf  
Outflow=0.06 cfs 192 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 3,592 cf Average Runoff Depth = 3.00"**  
**0.00% Pervious = 0 sf 100.00% Impervious = 14,381 sf**



**2729-01\_Existing-Conditions**

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Type III 24-hr 2-Year Rainfall=3.23"

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**Summary for Subcatchment E-1: Subcat E-1**

Runoff = 1.02 cfs @ 12.07 hrs, Volume= 3,400 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 2-Year Rainfall=3.23"

Area (sf)	CN	Description
8,604	98	Paved parking, HSG A
5,008	98	Roofs, HSG A
13,613	98	Weighted Average
13,613		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment E-2: Subcat E-2**

Runoff = 0.06 cfs @ 12.07 hrs, Volume= 192 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 2-Year Rainfall=3.23"

Area (sf)	CN	Description
768	98	Paved parking, HSG A
768		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,613 sf, 100.00% Impervious, Inflow Depth = 3.00" for 2-Year event  
 Inflow = 1.02 cfs @ 12.07 hrs, Volume= 3,400 cf  
 Outflow = 1.02 cfs @ 12.07 hrs, Volume= 3,400 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 768 sf, 100.00% Impervious, Inflow Depth = 3.00" for 2-Year event  
 Inflow = 0.06 cfs @ 12.07 hrs, Volume= 192 cf  
 Outflow = 0.06 cfs @ 12.07 hrs, Volume= 192 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



## 2729-01\_Existing-Conditions

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Type III 24-hr 10-Year Rainfall=4.88"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

### Subcatchment E-1: Subcat E-1

Runoff Area=13,613 sf 100.00% Impervious Runoff Depth=4.64"  
Tc=5.0 min CN=98 Runoff=1.55 cfs 5,267 cf

### Subcatchment E-2: Subcat E-2

Runoff Area=768 sf 100.00% Impervious Runoff Depth=4.64"  
Tc=5.0 min CN=98 Runoff=0.09 cfs 297 cf

### Reach SP1: Study Point 1

Inflow=1.55 cfs 5,267 cf  
Outflow=1.55 cfs 5,267 cf

### Reach SP2: Study Point 2

Inflow=0.09 cfs 297 cf  
Outflow=0.09 cfs 297 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 5,565 cf Average Runoff Depth = 4.64"**  
**0.00% Pervious = 0 sf 100.00% Impervious = 14,381 sf**



**2729-01\_Existing-Conditions**

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Type III 24-hr 10-Year Rainfall=4.88"

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**Summary for Subcatchment E-1: Subcat E-1**

Runoff = 1.55 cfs @ 12.07 hrs, Volume= 5,267 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-Year Rainfall=4.88"

Area (sf)	CN	Description
8,604	98	Paved parking, HSG A
5,008	98	Roofs, HSG A
13,613	98	Weighted Average
13,613		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment E-2: Subcat E-2**

Runoff = 0.09 cfs @ 12.07 hrs, Volume= 297 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-Year Rainfall=4.88"

Area (sf)	CN	Description
768	98	Paved parking, HSG A
768		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,613 sf, 100.00% Impervious, Inflow Depth = 4.64" for 10-Year event  
 Inflow = 1.55 cfs @ 12.07 hrs, Volume= 5,267 cf  
 Outflow = 1.55 cfs @ 12.07 hrs, Volume= 5,267 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 768 sf, 100.00% Impervious, Inflow Depth = 4.64" for 10-Year event  
 Inflow = 0.09 cfs @ 12.07 hrs, Volume= 297 cf  
 Outflow = 0.09 cfs @ 12.07 hrs, Volume= 297 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



**2729-01\_Existing-Conditions**

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Type III 24-hr 100-Year Rainfall=8.89"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment E-1: Subcat E-1**Runoff Area=13,613 sf 100.00% Impervious Runoff Depth=8.65"  
Tc=5.0 min CN=98 Runoff=2.83 cfs 9,812 cf**Subcatchment E-2: Subcat E-2**Runoff Area=768 sf 100.00% Impervious Runoff Depth=8.65"  
Tc=5.0 min CN=98 Runoff=0.16 cfs 554 cf**Reach SP1: Study Point 1**Inflow=2.83 cfs 9,812 cf  
Outflow=2.83 cfs 9,812 cf**Reach SP2: Study Point 2**Inflow=0.16 cfs 554 cf  
Outflow=0.16 cfs 554 cf**Total Runoff Area = 14,381 sf Runoff Volume = 10,366 cf Average Runoff Depth = 8.65"**  
**0.00% Pervious = 0 sf 100.00% Impervious = 14,381 sf**



**2729-01\_Existing-Conditions**

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Type III 24-hr 100-Year Rainfall=8.89"

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**Summary for Subcatchment E-1: Subcat E-1**

Runoff = 2.83 cfs @ 12.07 hrs, Volume= 9,812 cf, Depth= 8.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 100-Year Rainfall=8.89"

Area (sf)	CN	Description
8,604	98	Paved parking, HSG A
5,008	98	Roofs, HSG A
13,613	98	Weighted Average
13,613		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment E-2: Subcat E-2**

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 554 cf, Depth= 8.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 100-Year Rainfall=8.89"

Area (sf)	CN	Description
768	98	Paved parking, HSG A
768		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,613 sf, 100.00% Impervious, Inflow Depth = 8.65" for 100-Year event

Inflow = 2.83 cfs @ 12.07 hrs, Volume= 9,812 cf

Outflow = 2.83 cfs @ 12.07 hrs, Volume= 9,812 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

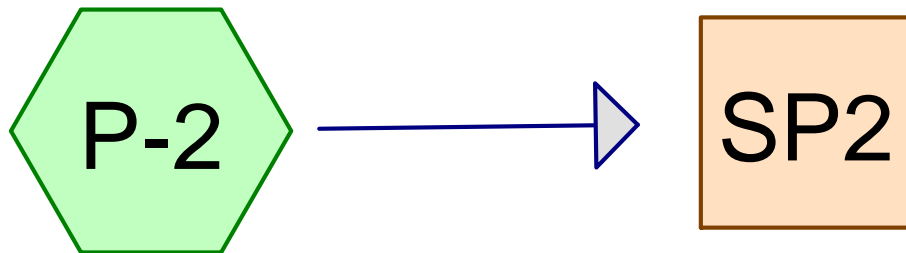
Inflow Area = 768 sf, 100.00% Impervious, Inflow Depth = 8.65" for 100-Year event

Inflow = 0.16 cfs @ 12.07 hrs, Volume= 554 cf

Outflow = 0.16 cfs @ 12.07 hrs, Volume= 554 cf, Atten= 0%, Lag= 0.0 min

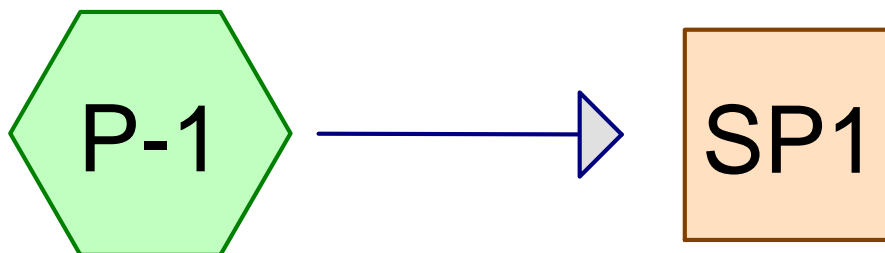
Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3





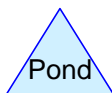
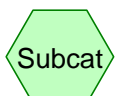
Subcat P-2

Study Point 2



Subcat P-1

Study Point 1





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### Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
2,080	39	>75% Grass cover, Good, HSG A (P-1, P-2)
7,871	98	Paved parking, HSG A (P-1, P-2)
4,430	98	Roofs, HSG A (P-1)
<b>14,381</b>	<b>89</b>	<b>TOTAL AREA</b>



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### Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
14,381	HSG A	P-1, P-2
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
<b>14,381</b>		<b>TOTAL AREA</b>



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**Ground Covers (all nodes)**

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchment Numbers
2,080	0	0	0	0	2,080	>75% Grass cover, Good	P-1, P-2
7,871	0	0	0	0	7,871	Paved parking	P-1, P-2
4,430	0	0	0	0	4,430	Roofs	P-1
<b>14,381</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,381</b>	<b>TOTAL AREA</b>	



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Type III 24-hr 2-Year Rainfall=3.23"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment P-1: Subcat P-1**

Runoff Area=13,527 sf 86.87% Impervious Runoff Depth=2.20"

Tc=5.0 min CN=90 Runoff=0.82 cfs 2,476 cf

**Subcatchment P-2: Subcat P-2**

Runoff Area=854 sf 64.40% Impervious Runoff Depth=1.23"

Tc=5.0 min CN=77 Runoff=0.03 cfs 88 cf

**Reach SP1: Study Point 1**

Inflow=0.82 cfs 2,476 cf

Outflow=0.82 cfs 2,476 cf

**Reach SP2: Study Point 2**

Inflow=0.03 cfs 88 cf

Outflow=0.03 cfs 88 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 2,564 cf Average Runoff Depth = 2.14"****14.47% Pervious = 2,080 sf 85.53% Impervious = 12,301 sf**



**2729-01\_Proposed-Conditions**

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Type III 24-hr 2-Year Rainfall=3.23"

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**Summary for Subcatchment P-1: Subcat P-1**

Runoff = 0.82 cfs @ 12.07 hrs, Volume= 2,476 cf, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-Year Rainfall=3.23"

Area (sf)	CN	Description
4,430	98	Roofs, HSG A
1,776	39	>75% Grass cover, Good, HSG A
7,321	98	Paved parking, HSG A
13,527	90	Weighted Average
1,776		13.13% Pervious Area
11,751		86.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment P-2: Subcat P-2**

Runoff = 0.03 cfs @ 12.08 hrs, Volume= 88 cf, Depth= 1.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-Year Rainfall=3.23"

Area (sf)	CN	Description
304	39	>75% Grass cover, Good, HSG A
550	98	Paved parking, HSG A
854	77	Weighted Average
304		35.60% Pervious Area
550		64.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,527 sf, 86.87% Impervious, Inflow Depth = 2.20" for 2-Year event  
 Inflow = 0.82 cfs @ 12.07 hrs, Volume= 2,476 cf  
 Outflow = 0.82 cfs @ 12.07 hrs, Volume= 2,476 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 854 sf, 64.40% Impervious, Inflow Depth = 1.23" for 2-Year event  
 Inflow = 0.03 cfs @ 12.08 hrs, Volume= 88 cf  
 Outflow = 0.03 cfs @ 12.08 hrs, Volume= 88 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



**2729-01\_Proposed-Conditions**

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Type III 24-hr 10-Year Rainfall=4.88"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment P-1: Subcat P-1**

Runoff Area=13,527 sf 86.87% Impervious Runoff Depth=3.76"

Tc=5.0 min CN=90 Runoff=1.37 cfs 4,239 cf

**Subcatchment P-2: Subcat P-2**

Runoff Area=854 sf 64.40% Impervious Runoff Depth=2.52"

Tc=5.0 min CN=77 Runoff=0.06 cfs 180 cf

**Reach SP1: Study Point 1**

Inflow=1.37 cfs 4,239 cf

Outflow=1.37 cfs 4,239 cf

**Reach SP2: Study Point 2**

Inflow=0.06 cfs 180 cf

Outflow=0.06 cfs 180 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 4,419 cf Average Runoff Depth = 3.69"****14.47% Pervious = 2,080 sf 85.53% Impervious = 12,301 sf**



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Type III 24-hr 10-Year Rainfall=4.88"

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**Summary for Subcatchment P-1: Subcat P-1**

Runoff = 1.37 cfs @ 12.07 hrs, Volume= 4,239 cf, Depth= 3.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Type III 24-hr 10-Year Rainfall=4.88"

Area (sf)	CN	Description
4,430	98	Roofs, HSG A
1,776	39	>75% Grass cover, Good, HSG A
7,321	98	Paved parking, HSG A
13,527	90	Weighted Average
1,776		13.13% Pervious Area
11,751		86.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment P-2: Subcat P-2**

Runoff = 0.06 cfs @ 12.08 hrs, Volume= 180 cf, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Type III 24-hr 10-Year Rainfall=4.88"

Area (sf)	CN	Description
304	39	>75% Grass cover, Good, HSG A
550	98	Paved parking, HSG A
854	77	Weighted Average
304		35.60% Pervious Area
550		64.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,527 sf, 86.87% Impervious, Inflow Depth = 3.76" for 10-Year event

Inflow = 1.37 cfs @ 12.07 hrs, Volume= 4,239 cf

Outflow = 1.37 cfs @ 12.07 hrs, Volume= 4,239 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 854 sf, 64.40% Impervious, Inflow Depth = 2.52" for 10-Year event

Inflow = 0.06 cfs @ 12.08 hrs, Volume= 180 cf

Outflow = 0.06 cfs @ 12.08 hrs, Volume= 180 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



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Type III 24-hr 100-Year Rainfall=8.89"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment P-1: Subcat P-1**

Runoff Area=13,527 sf 86.87% Impervious Runoff Depth=7.68"

Tc=5.0 min CN=90 Runoff=2.69 cfs 8,661 cf

**Subcatchment P-2: Subcat P-2**

Runoff Area=854 sf 64.40% Impervious Runoff Depth=6.10"

Tc=5.0 min CN=77 Runoff=0.14 cfs 434 cf

**Reach SP1: Study Point 1**

Inflow=2.69 cfs 8,661 cf

Outflow=2.69 cfs 8,661 cf

**Reach SP2: Study Point 2**

Inflow=0.14 cfs 434 cf

Outflow=0.14 cfs 434 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 9,095 cf Average Runoff Depth = 7.59"****14.47% Pervious = 2,080 sf 85.53% Impervious = 12,301 sf**



**2729-01\_Proposed-Conditions**

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Type III 24-hr 100-Year Rainfall=8.89"

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**Summary for Subcatchment P-1: Subcat P-1**

Runoff = 2.69 cfs @ 12.07 hrs, Volume= 8,661 cf, Depth= 7.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 100-Year Rainfall=8.89"

Area (sf)	CN	Description
4,430	98	Roofs, HSG A
1,776	39	>75% Grass cover, Good, HSG A
7,321	98	Paved parking, HSG A
13,527	90	Weighted Average
1,776		13.13% Pervious Area
11,751		86.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment P-2: Subcat P-2**

Runoff = 0.14 cfs @ 12.07 hrs, Volume= 434 cf, Depth= 6.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 100-Year Rainfall=8.89"

Area (sf)	CN	Description
304	39	>75% Grass cover, Good, HSG A
550	98	Paved parking, HSG A
854	77	Weighted Average
304		35.60% Pervious Area
550		64.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,527 sf, 86.87% Impervious, Inflow Depth = 7.68" for 100-Year event  
 Inflow = 2.69 cfs @ 12.07 hrs, Volume= 8,661 cf  
 Outflow = 2.69 cfs @ 12.07 hrs, Volume= 8,661 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 854 sf, 64.40% Impervious, Inflow Depth = 6.10" for 100-Year event  
 Inflow = 0.14 cfs @ 12.07 hrs, Volume= 434 cf  
 Outflow = 0.14 cfs @ 12.07 hrs, Volume= 434 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



# Extreme Precipitation Tables

## Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

<b>Smoothing</b>	Yes
<b>State</b>	Massachusetts
<b>Location</b>	
<b>Longitude</b>	71.164 degrees West
<b>Latitude</b>	42.417 degrees North
<b>Elevation</b>	0 feet
<b>Date/Time</b>	Wed, 22 Jan 2020 13:40:55 -0500

## Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.28	0.43	0.53	0.70	0.87	1.10	<b>1yr</b>	0.75	1.04	1.28	1.63	2.08	2.68	2.92	<b>1yr</b>	2.37	2.81	3.27	3.96	4.64	<b>1yr</b>
<b>2yr</b>	0.35	0.54	0.67	0.88	1.11	1.40	<b>2yr</b>	0.96	1.28	1.62	2.03	2.56	3.23	3.57	<b>2yr</b>	2.85	3.44	3.94	4.68	5.34	<b>2yr</b>
<b>5yr</b>	0.41	0.64	0.81	1.08	1.39	1.77	<b>5yr</b>	1.20	1.60	2.05	2.59	3.25	4.08	4.55	<b>5yr</b>	3.61	4.37	4.99	5.95	6.68	<b>5yr</b>
<b>10yr</b>	0.47	0.73	0.93	1.26	1.64	2.11	<b>10yr</b>	1.42	1.90	2.46	3.11	3.90	4.88	5.45	<b>10yr</b>	4.32	5.25	5.97	7.14	7.91	<b>10yr</b>
<b>25yr</b>	0.56	0.88	1.12	1.55	2.05	2.66	<b>25yr</b>	1.77	2.39	3.12	3.95	4.96	6.19	6.95	<b>25yr</b>	5.48	6.68	7.57	9.09	9.91	<b>25yr</b>
<b>50yr</b>	0.63	1.01	1.29	1.81	2.44	3.20	<b>50yr</b>	2.10	2.85	3.76	4.76	5.97	7.42	8.35	<b>50yr</b>	6.56	8.03	9.07	10.91	11.75	<b>50yr</b>
<b>100yr</b>	0.72	1.17	1.51	2.13	2.90	3.82	<b>100yr</b>	2.50	3.39	4.50	5.71	7.16	8.89	10.03	<b>100yr</b>	7.86	9.65	10.86	13.10	13.95	<b>100yr</b>
<b>200yr</b>	0.83	1.35	1.74	2.50	3.45	4.57	<b>200yr</b>	2.97	4.03	5.40	6.86	8.59	10.65	12.07	<b>200yr</b>	9.42	11.60	13.02	15.73	16.56	<b>200yr</b>
<b>500yr</b>	1.00	1.64	2.14	3.10	4.34	5.80	<b>500yr</b>	3.74	5.08	6.86	8.74	10.94	13.54	15.41	<b>500yr</b>	11.98	14.82	16.54	20.06	20.78	<b>500yr</b>

## Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.24	0.38	0.46	0.62	0.76	0.84	<b>1yr</b>	0.66	0.83	1.14	1.43	1.77	2.41	2.48	<b>1yr</b>	2.14	2.38	2.92	3.52	4.01	<b>1yr</b>
<b>2yr</b>	0.33	0.51	0.63	0.85	1.05	1.26	<b>2yr</b>	0.91	1.23	1.44	1.91	2.47	3.12	3.45	<b>2yr</b>	2.76	3.32	3.80	4.52	5.17	<b>2yr</b>
<b>5yr</b>	0.39	0.60	0.74	1.02	1.30	1.50	<b>5yr</b>	1.12	1.47	1.72	2.24	2.87	3.75	4.15	<b>5yr</b>	3.32	3.99	4.57	5.45	6.14	<b>5yr</b>
<b>10yr</b>	0.43	0.67	0.82	1.15	1.49	1.72	<b>10yr</b>	1.28	1.68	1.94	2.52	3.23	4.32	4.80	<b>10yr</b>	3.83	4.61	5.24	6.25	7.00	<b>10yr</b>
<b>25yr</b>	0.50	0.76	0.95	1.35	1.78	2.04	<b>25yr</b>	1.53	1.99	2.29	2.95	3.76	5.19	5.78	<b>25yr</b>	4.59	5.56	6.29	7.47	8.28	<b>25yr</b>
<b>50yr</b>	0.55	0.84	1.05	1.51	2.03	2.34	<b>50yr</b>	1.75	2.29	2.60	3.33	4.23	5.94	6.65	<b>50yr</b>	5.26	6.39	7.20	8.51	9.40	<b>50yr</b>
<b>100yr</b>	0.62	0.93	1.17	1.69	2.32	2.66	<b>100yr</b>	2.00	2.60	2.94	3.61	4.75	6.83	7.64	<b>100yr</b>	6.04	7.35	8.26	9.67	10.68	<b>100yr</b>
<b>200yr</b>	0.69	1.04	1.32	1.92	2.67	3.04	<b>200yr</b>	2.31	2.97	3.34	4.04	5.35	7.83	8.79	<b>200yr</b>	6.93	8.45	9.46	10.96	12.10	<b>200yr</b>
<b>500yr</b>	0.81	1.21	1.55	2.25	3.21	3.62	<b>500yr</b>	2.77	3.54	3.93	4.69	6.27	9.39	10.55	<b>500yr</b>	8.31	10.15	11.32	12.90	14.25	<b>500yr</b>

## Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.31	0.48	0.58	0.79	0.97	1.13	<b>1yr</b>	0.83	1.11	1.32	1.76	2.25	2.86	3.16	<b>1yr</b>	2.53	3.04	3.51	4.30	5.03	<b>1yr</b>
<b>2yr</b>	0.36	0.56	0.69	0.93	1.15	1.36	<b>2yr</b>	0.99	1.33	1.57	2.07	2.67	3.35	3.73	<b>2yr</b>	2.97	3.59	4.10	4.88	5.54	<b>2yr</b>
<b>5yr</b>	0.45	0.69	0.86	1.18	1.50	1.78	<b>5yr</b>	1.30	1.74	2.05	2.65	3.37	4.44	5.00	<b>5yr</b>	3.93	4.81	5.43	6.47	7.22	<b>5yr</b>
<b>10yr</b>	0.55	0.84	1.04	1.45	1.88	2.19	<b>10yr</b>	1.62	2.14	2.54	3.20	4.04	5.52	6.25	<b>10yr</b>	4.89	6.01	6.74	8.04	8.84	<b>10yr</b>
<b>25yr</b>	0.71	1.08	1.34	1.92	2.52	2.89	<b>25yr</b>	2.18	2.82	3.37	4.13	5.14	7.34	8.43	<b>25yr</b>	6.50	8.11	8.96	10.76	11.58	<b>25yr</b>
<b>50yr</b>	0.86	1.31	1.63	2.34	3.15	3.57	<b>50yr</b>	2.72	3.49	4.17	5.02	6.17	9.12	10.57	<b>50yr</b>	8.07	10.16	11.11	13.43	14.21	<b>50yr</b>
<b>100yr</b>	1.05	1.59	1.99	2.87	3.94	4.39	<b>100yr</b>	3.40	4.30	5.18	6.33	7.40	11.34	13.27	<b>100yr</b>	10.04	12.76	13.79	16.80	17.48	<b>100yr</b>
<b>200yr</b>	1.28	1.92	2.44	3.53	4.92	5.43	<b>200yr</b>	4.25	5.30	6.43	7.72	8.88	14.11	16.67	<b>200yr</b>	12.49	16.03	17.14	21.02	21.51	<b>200yr</b>
<b>500yr</b>	1.67	2.48	3.19	4.63	6.59	7.15	<b>500yr</b>	5.69	6.99	8.57	10.06	11.30	18.86	22.55	<b>500yr</b>	16.69	21.69	22.82	28.32	28.35	<b>500yr</b>





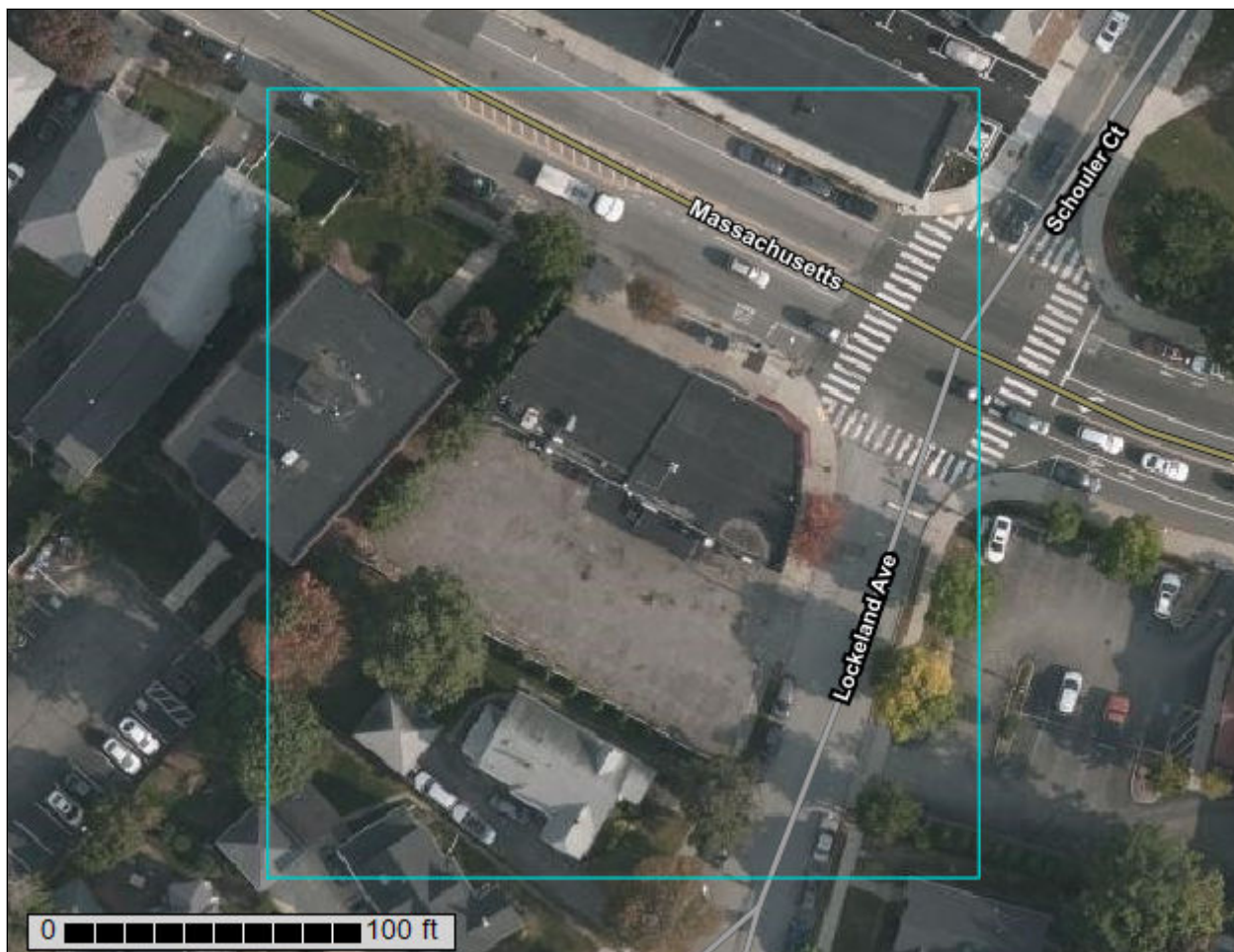
United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Middlesex County, Massachusetts**





# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil



scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and



## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.



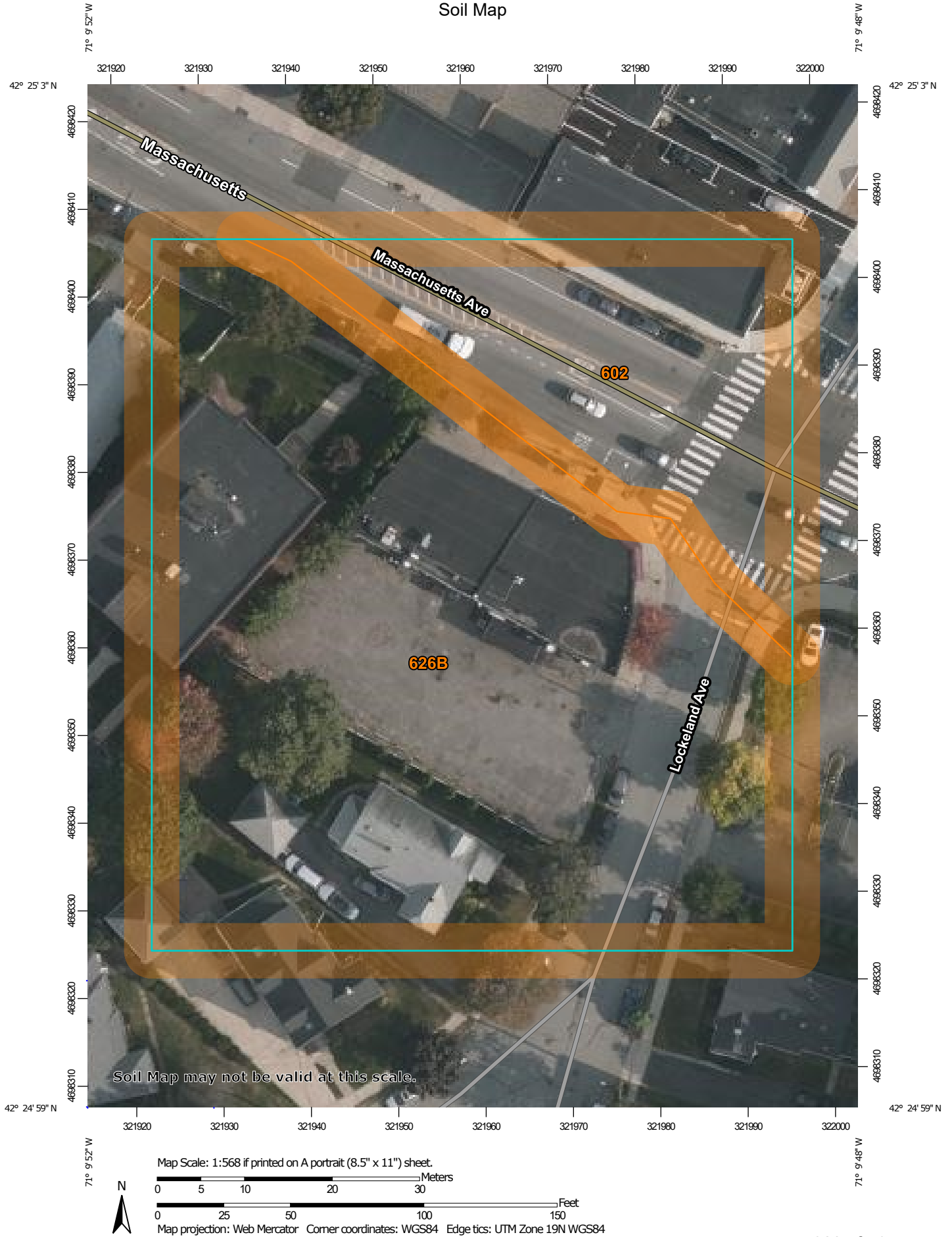
# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.




# Custom Soil Resource Report Soil Map





## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts  
Survey Area Data: Version 19, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
602	Urban land	0.3	23.4%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	1.1	76.6%
<b>Totals for Area of Interest</b>		<b>1.5</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,



onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## Middlesex County, Massachusetts

### 602—Urban land

#### Map Unit Setting

*National map unit symbol:* 9950  
*Elevation:* 0 to 3,000 feet  
*Mean annual precipitation:* 32 to 50 inches  
*Mean annual air temperature:* 45 to 50 degrees F  
*Frost-free period:* 110 to 200 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Urban land:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Urban Land

##### Setting

*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Excavated and filled land

#### Minor Components

##### Rock outcrop

*Percent of map unit:* 5 percent  
*Landform:* Ledges  
*Landform position (two-dimensional):* Summit  
*Landform position (three-dimensional):* Head slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave

##### Udorthents, wet substratum

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

##### Udorthents, loamy

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

### 626B—Merrimac-Urban land complex, 0 to 8 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2tyr9  
*Elevation:* 0 to 820 feet  
*Mean annual precipitation:* 36 to 71 inches



## Custom Soil Resource Report

*Mean annual air temperature:* 39 to 55 degrees F

*Frost-free period:* 140 to 250 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Merrimac and similar soils:* 45 percent

*Urban land:* 40 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Merrimac

#### Setting

*Landform:* Moraines, outwash plains, kames, eskers, outwash terraces

*Landform position (two-dimensional):* Backslope, footslope, summit, shoulder

*Landform position (three-dimensional):* Side slope, crest, riser, tread

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

#### Typical profile

*Ap - 0 to 10 inches:* fine sandy loam

*Bw1 - 10 to 22 inches:* fine sandy loam

*Bw2 - 22 to 26 inches:* stratified gravel to gravelly loamy sand

*2C - 26 to 65 inches:* stratified gravel to very gravelly sand

#### Properties and qualities

*Slope:* 0 to 8 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Somewhat excessively drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to very high (1.42 to 99.90 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 2 percent

*Salinity, maximum in profile:* Nonsaline (0.0 to 1.4 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 1.0

*Available water storage in profile:* Low (about 4.6 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 2e

*Hydrologic Soil Group:* A

*Hydric soil rating:* No

### Description of Urban Land

#### Typical profile

*M - 0 to 10 inches:* cemented material

#### Properties and qualities

*Slope:* 0 to 8 percent

*Depth to restrictive feature:* 0 inches to manufactured layer



## Custom Soil Resource Report

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)

*Available water storage in profile:* Very low (about 0.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydrologic Soil Group:* D

*Hydric soil rating:* Unranked

### Minor Components

#### Windsor

*Percent of map unit:* 5 percent

*Landform:* Deltas, outwash plains, dunes, outwash terraces

*Landform position (three-dimensional):* Riser, tread

*Down-slope shape:* Linear, convex

*Across-slope shape:* Linear, convex

*Hydric soil rating:* No

#### Sudbury

*Percent of map unit:* 5 percent

*Landform:* Terraces, deltas, outwash plains

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Tread, dip

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### Hinckley

*Percent of map unit:* 5 percent

*Landform:* Deltas, outwash plains, kames, eskers

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Nose slope, crest, head slope, side slope, rise

*Down-slope shape:* Convex

*Across-slope shape:* Convex, linear

*Hydric soil rating:* No



# **Soil Information for All Uses**

---

## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## **Soil Physical Properties**

Soil Physical Properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

### **Saturated Hydraulic Conductivity (Ksat)**

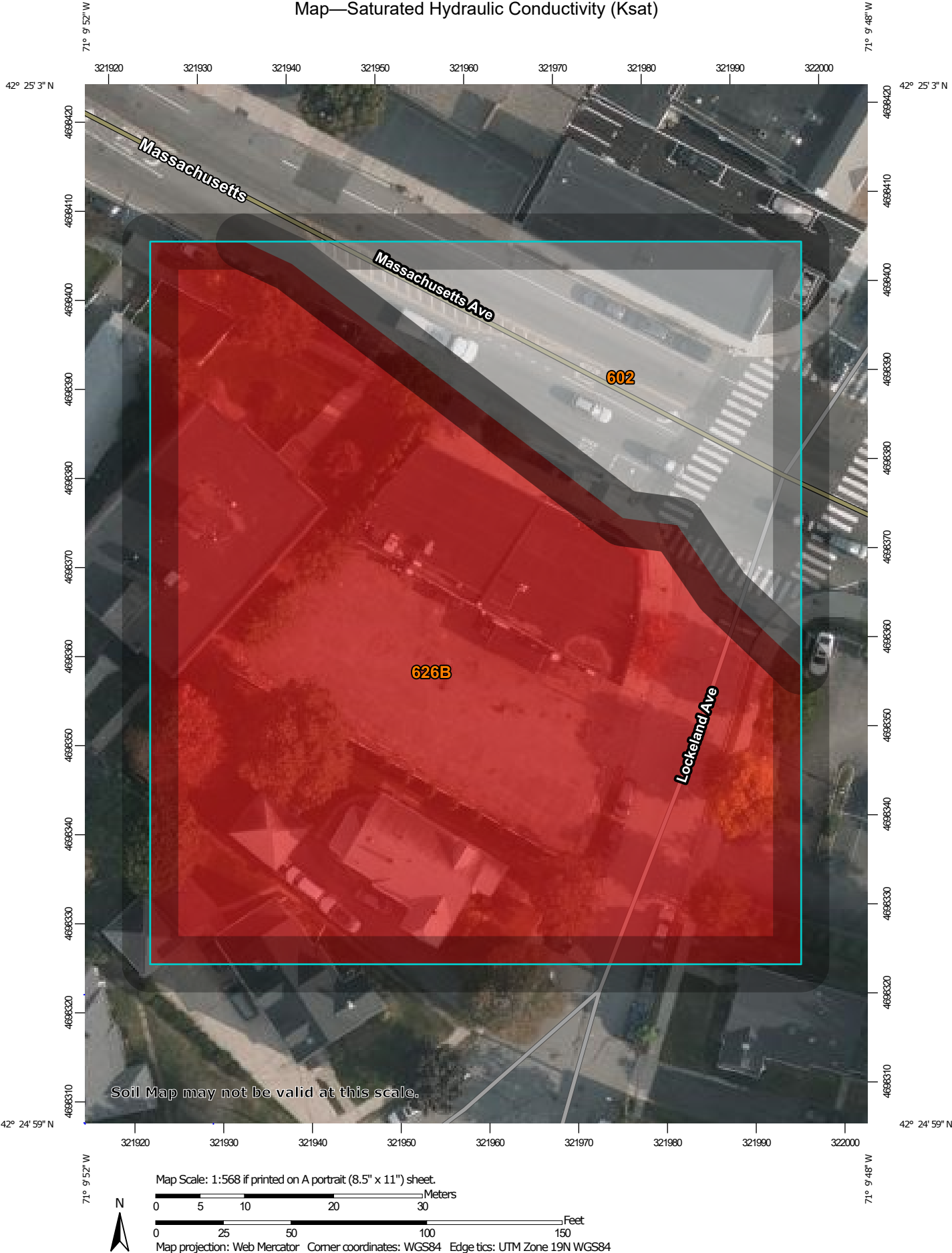
Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.




Custom Soil Resource Report  
Map—Saturated Hydraulic Conductivity (Ksat)






## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)


### Soils

#### Soil Rating Polygons

 = 100.0000


 Not rated or not available

#### Soil Rating Lines

 = 100.0000


 Not rated or not available

#### Soil Rating Points

 = 100.0000

 Not rated or not available

### Water Features

 Streams and Canals


### Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts  
Survey Area Data: Version 19, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



**Table—Saturated Hydraulic Conductivity (Ksat)**

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
602	Urban land		0.3	23.4%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	100.0000	1.1	76.6%
<b>Totals for Area of Interest</b>			<b>1.5</b>	<b>100.0%</b>

### Rating Options—Saturated Hydraulic Conductivity (Ksat)

*Units of Measure:* micrometers per second

*Aggregation Method:* Dominant Component

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Fastest

*Interpret Nulls as Zero:* No

*Layer Options (Horizon Aggregation Method):* Depth Range (Weighted Average)

*Top Depth:* 24

*Bottom Depth:* 90

*Units of Measure:* Centimeters

## Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

## Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:



## Custom Soil Resource Report

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

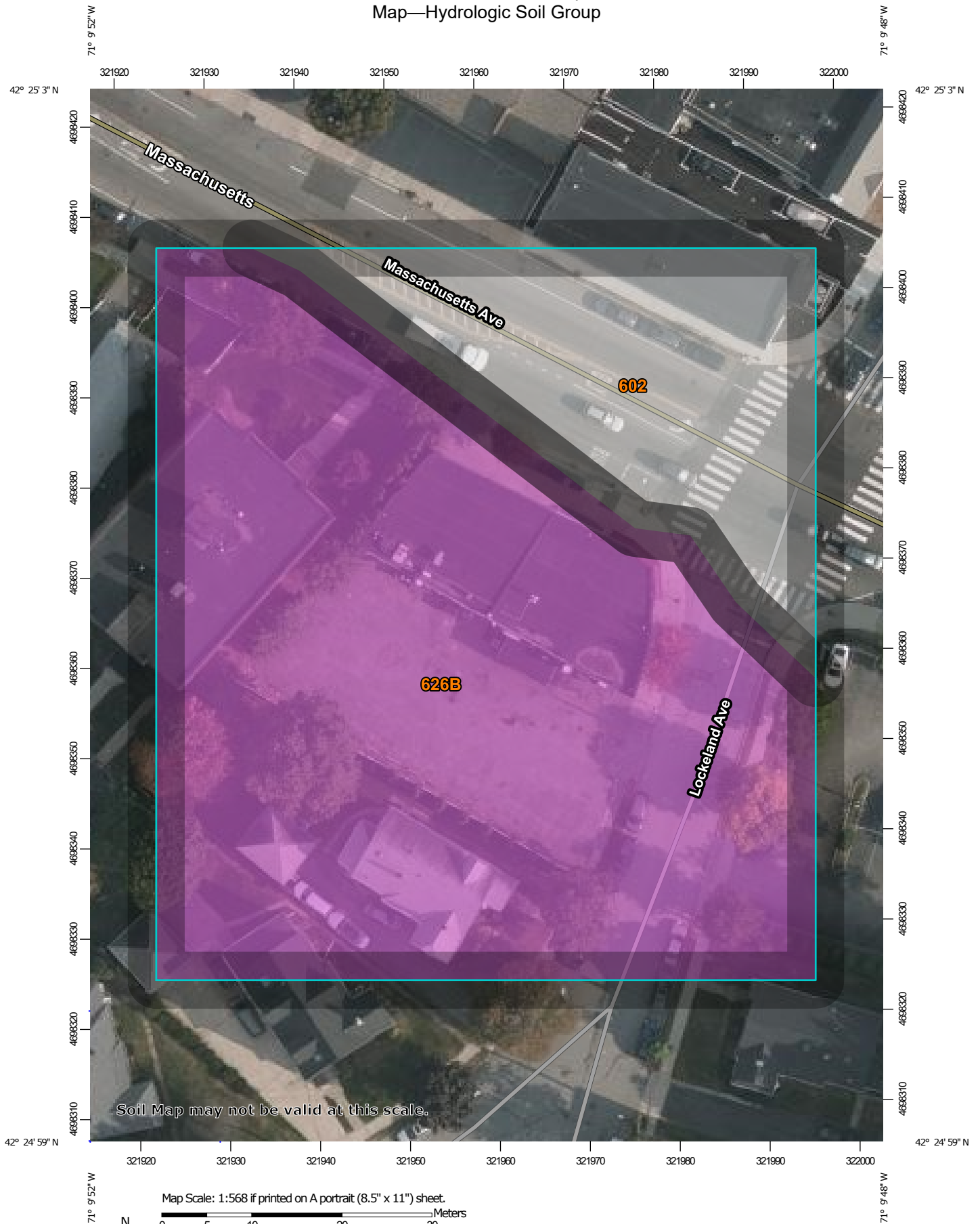
Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.


If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.










Custom Soil Resource Report  
Map—Hydrologic Soil Group













**MAP LEGEND****Area of Interest (AOI)**
 Area of Interest (AOI)
**Soils****Soil Rating Polygons**





 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available


**Soil Rating Lines**






 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available


**Soil Rating Points**

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

**Water Features**
 Streams and Canals
**Transportation**

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

**Background**
 Aerial Photography
**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

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 Survey Area Data: Version 19, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

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**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
602	Urban land		0.3	23.4%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	A	1.1	76.6%
<b>Totals for Area of Interest</b>			<b>1.5</b>	<b>100.0%</b>

**Rating Options—Hydrologic Soil Group**

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher



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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>



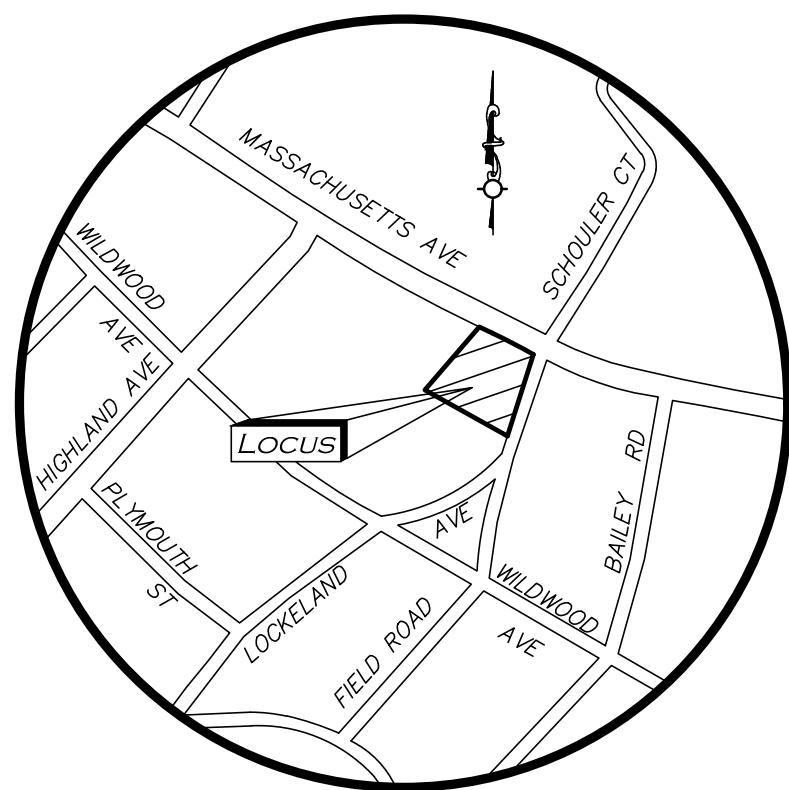
## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

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**LOCUS MAP**  
NOT TO SCALE

# SITE DEVELOPMENT PLAN SET

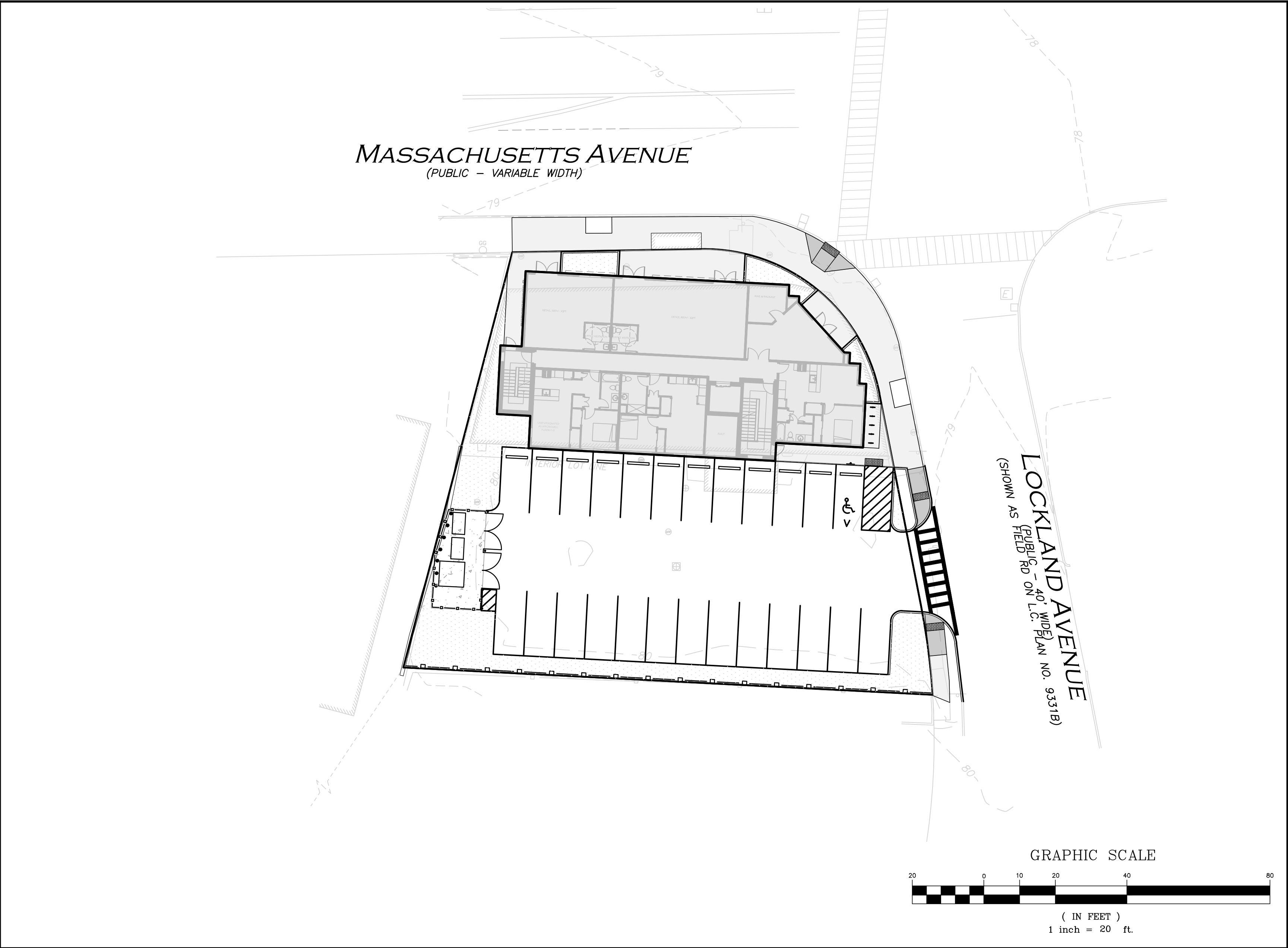
## 882-892 MASSACHUSETTS AVE

### ARLINGTON, MA 02476

**APPLICANT:**  
882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

**ARCHITECT:**  
MARKET SQUARE ARCHITECTS  
104 CONGRESS STREET, STE 203  
PORTSMOUTH, NH 03801  
(603) 501-0202

**CIVIL ENGINEER, LANDSCAPE ARCHITECT &  
LAND SURVEYOR:**  
ALLEN & MAJOR ASSOCIATES, INC.  
100 COMMERCE WAY, SUITE 5  
WOBURN, MA 01801  
(781) 985-6889



LIST OF DRAWINGS			
DRAWING TITLE	SHEET	ISSUED	REVISED
EXISTING CONDITIONS	V-101	4/10/2020	-
SITE PREPARATION PLAN	C-101	4/10/2020	6/23/2020
LAYOUT & MATERIALS PLAN	C-102	4/10/2020	6/23/2020
GRADING & DRAINAGE PLAN	C-103	4/10/2020	6/23/2020
UTILITIES PLAN	C-104	4/10/2020	6/23/2020
DETAILS	C-501	4/10/2020	6/23/2020
DETAILS	C-502	4/10/2020	6/23/2020
DETAILS	C-503	4/10/2020	6/23/2020
LANDSCAPE PLAN	L-101	4/10/2020	6/23/2020
LANDSCAPE DETAILS	L-501	4/10/2020	6/23/2020



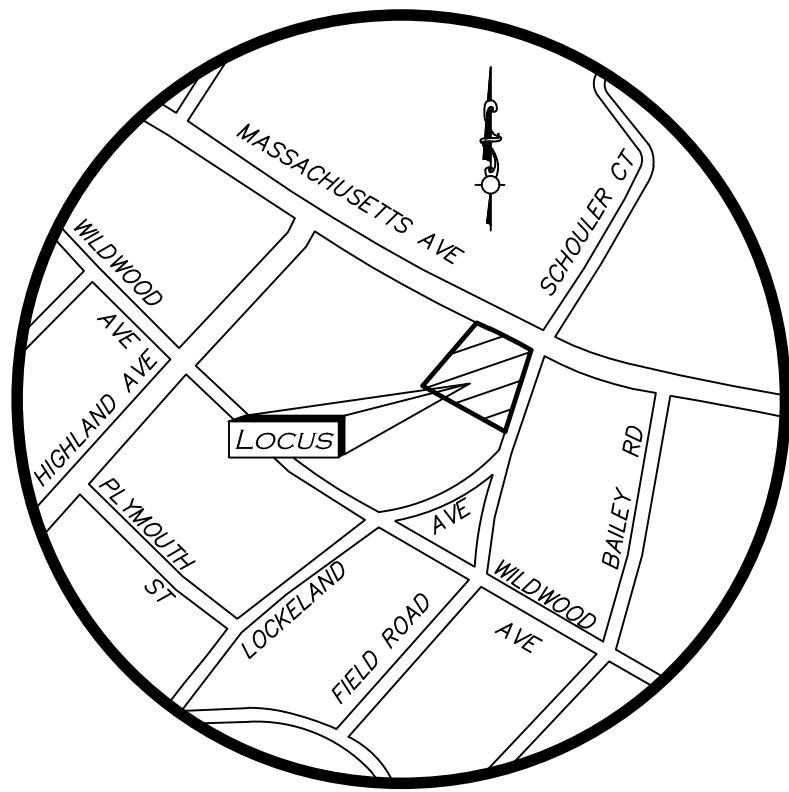
PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

PREPARED BY:

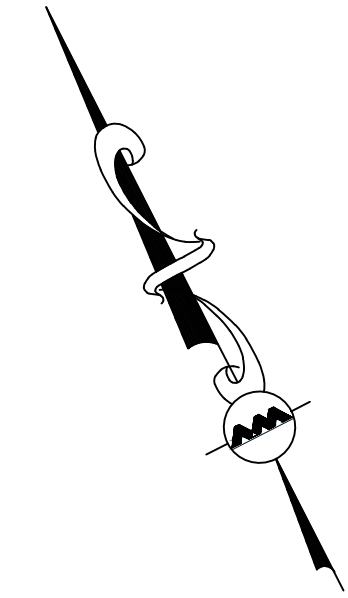
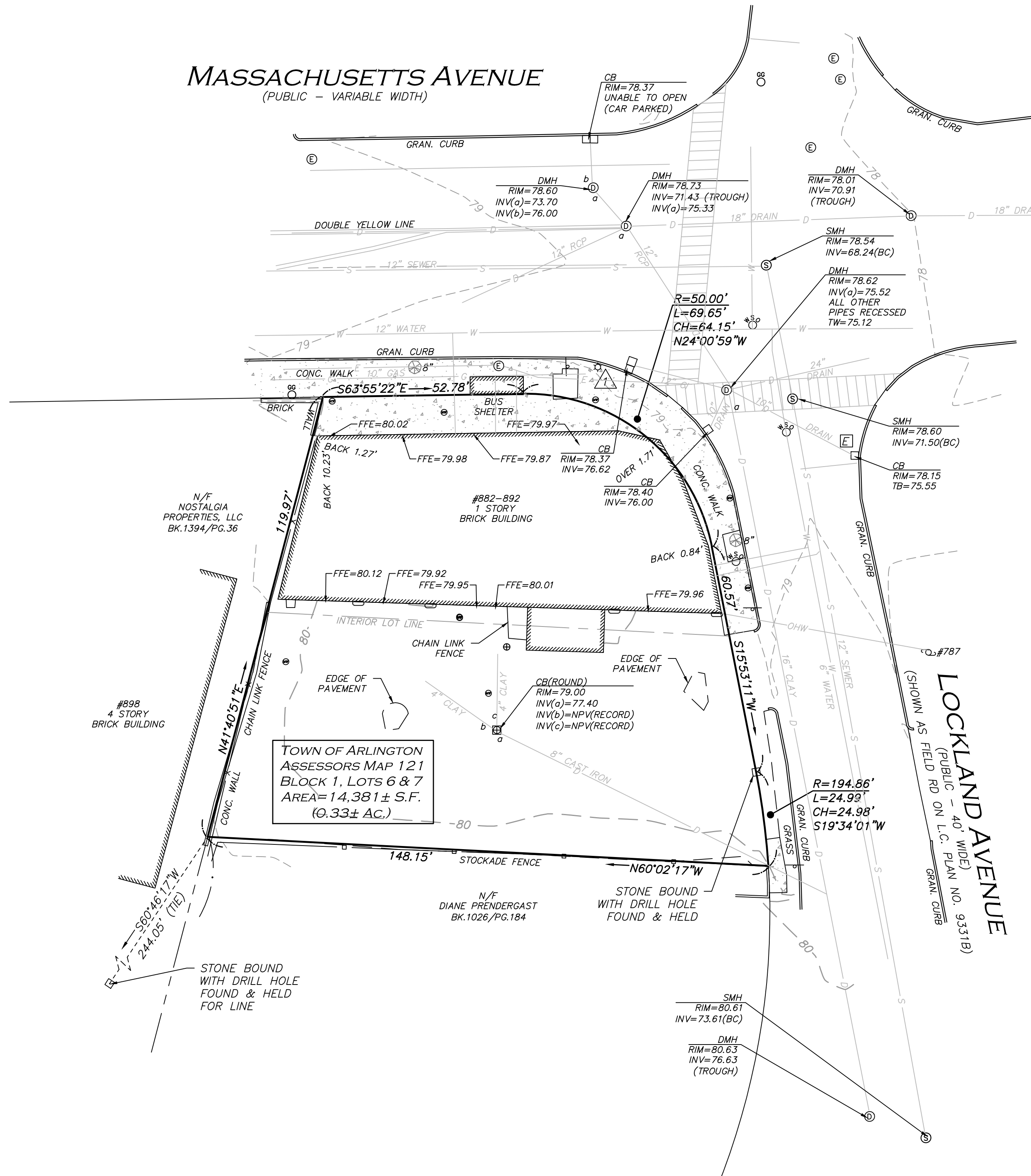
**ALLEN & MAJOR  
ASSOCIATES, INC.**  
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environmental consulting ♦ landscape architecture  
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FAX: (781) 935-2896  
WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

ISSUED FOR ARB REVIEW: 4/10/2020  
**ISSUED FOR ARB REVIEW: 6/23/2020**





LOCUS MAP  
(NOT TO SCALE)



LEGEND

STONE BOUND (SB)	⊞
DRAIN MANHOLE (DMH)	⊕
SEWER MANHOLE (SMH)	⊙
ELECTRIC MANHOLE (EMH)	⊖
MISC. MANHOLE (MH)	⊗
TELEPHONE MANHOLE (TMH)	⊘
CATCH BASIN (CB)	⊠
ROUND CATCH BASIN (RCB)	⊡
MONITOR WELL	⊞
DOWNSPOUT	⊞
WATER GATE	⊞
GAS GATE	⊞
BOLLARD	⊞
TREE	⊞
CONCRETE	⊞
BUILDING	⊞
1' CONTOUR	⊞
5' CONTOUR	⊞
PROPERTY LINE	⊞
ABUTTERS LINE	⊞
EDGE OF PAVEMENT	⊞
CURB	⊞
CHAIN LINK FENCE	⊞
STOCKADE FENCE	⊞
WATER LINE	⊞
SEWER LINE	⊞
DRAIN LINE	⊞
GAS LINE	⊞
ELECTRIC LINE	⊞
TELEPHONE LINE	⊞
FINISHED FLOOR ELEVATION	FFE
BITUMINOUS	BIT.
CONCRETE	CONC.
GRANITE	GRAN.
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.
CERTIFICATE OF TITLE	COT
LAND COURT	L.C.
LAND COURT CASE	L.C.C.

LOCUS REFERENCES

- TOWN OF ARLINGTON ASSESSORS MAP 26, BLOCK 1, LOTS 6 & 7.
- RECORD OWNER: 882-892 MASSACHUSETTS AVENUE, LLC
- L.C. BOOK 1523, PAGE 101
- L.C.C. #9331E

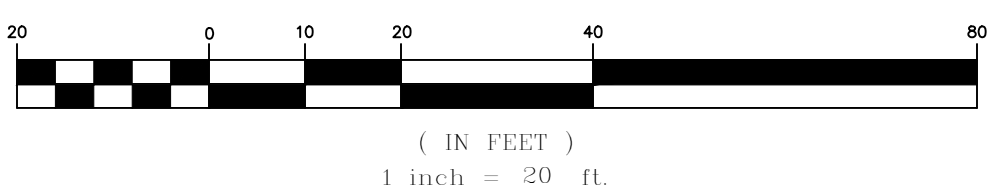
PLAN REFERENCES

- L.C.C. 9331B
- L.C.C. 13975B

NOTES

1. NORTH ARROW IS BASED ON MASSACHUSETTS GRID COORDINATE SYSTEM (MAINLAND ZONE) (NAD 83).
2. BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM MIDDLESEX (SOUTH) REGISTRY OF DEEDS IN CAMBRIDGE, MA.
3. VERTICAL DATUM IS NAVD 88 ESTABLISHED USING RTK GPS OBSERVATION.
4. CONTOUR INTERVAL IS ONE FOOT (1').
5. THERE WERE NO STRIPED PARKING SPACES OBSERVED ON SITE AT THE TIME OF SURVEY.

GRAPHIC SCALE



N:\PROJECTS\2729-01\SURVEY\DRAWINGS\CURRENT\S-2729-01-EC.DWG  
FBI# ??? PG. ???

UTILITY STATEMENT

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. ALLEN & MAJOR ASSOCIATES, INC. (A&M) MAKES NO GUARANTEE THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. A&M FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. A&M HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

BENCHMARK SUMMARY

TBM #	DESCRIPTION	ELEV.
△	CHISEL SQUARE ON LIGHT POLE BASE	79.15

WE HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL ON THE GROUND SURVEY PERFORMED ON DECEMBER 12, 2019.

04/10/20  
PROFESSIONAL LAND SURVEYOR FOR ALLEN & MAJOR ASSOCIATES, INC.

APR 10, 2020  
NORMAN I. LIPSITZ  
No. 28446  
PROFESSIONAL LAND SURVEYOR

REV	DATE	DESCRIPTION
-----	------	-------------

APPLICANT/OWNER:  
FRANK PASCIUTO  
455 MASSACHUSETTS AVENUE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVENUE  
ARLINGTON, MA

PROJECT NO. 2729-01 DATE: 01/14/20

SCALE: 1" = 20' DWG. NAME: S-2729-01-EC

DRAFTED BY: AJR CHECKED BY: NIL

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.  
civil engineering • land surveying  
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www.allenmajor.com  
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FAX: (781) 935-2896

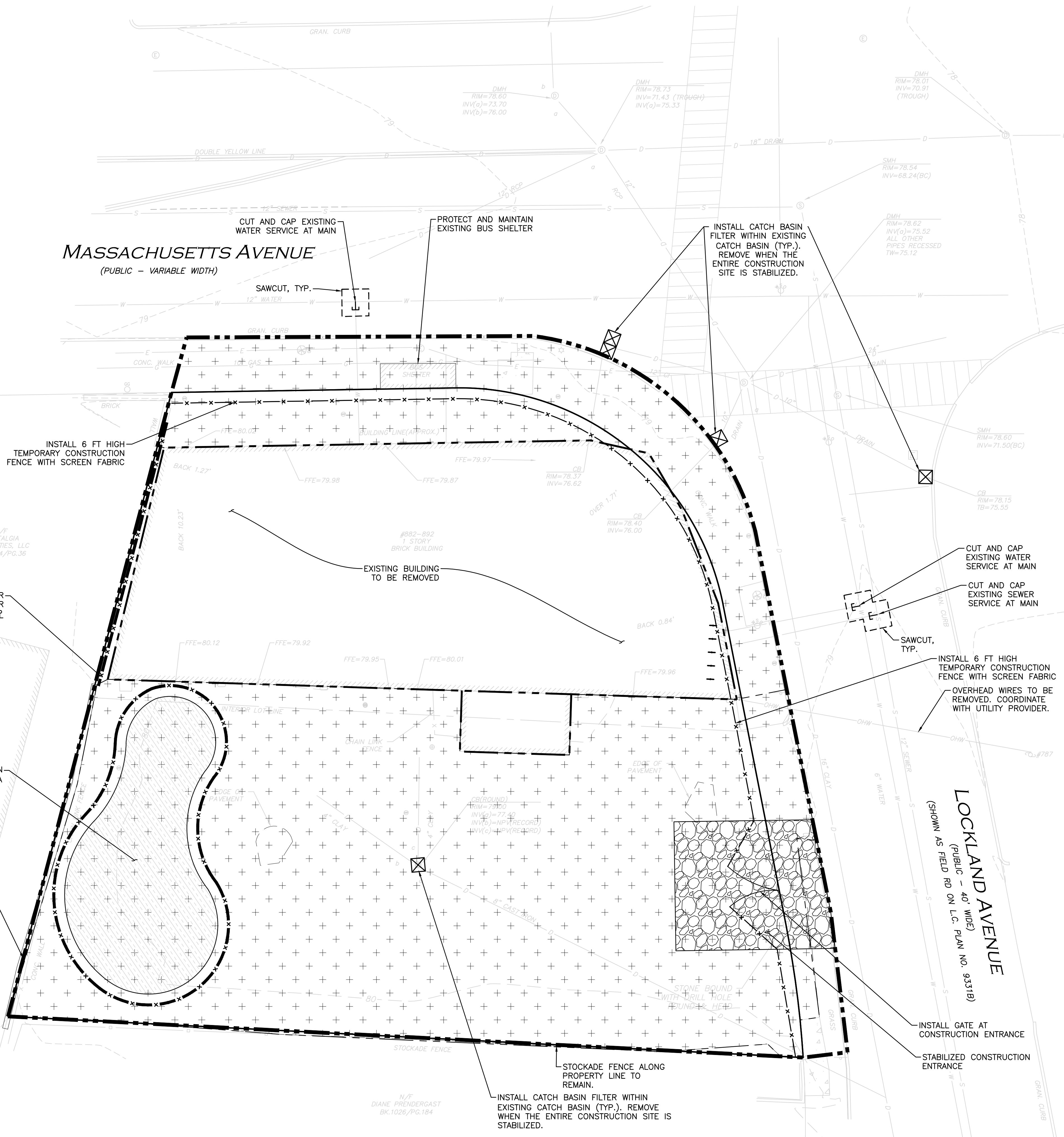
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DRAWING TITLE: EXISTING CONDITIONS SHEET NO. V-101

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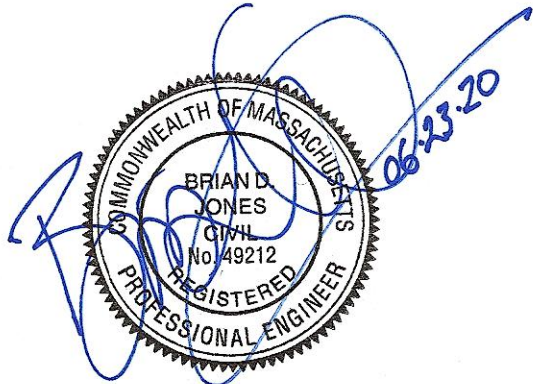




LEGEND	
TUBULAR BARRIER	— x — x —
CATCH BASIN FILTER	⊠
STABILIZED ENTRANCE	▨
STOCKPILE/STAGING AREA	▨
LIMIT OF DISTURBANCE	— · — · —
LIMIT OF 'CLEAR AND GRUB'	— · — · —
BUILDING TO BE REMOVED	▨
PAVEMENT TO BE REMOVED	▨
UTILITY CUT AND CAP	E
TEMPORARY FENCE	— x — x —

SITE PREPARATION NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. ALTHOUGH CERTAIN ITEMS HAVE BEEN NOTED ON THIS DRAWING FOR DEMOLITION, NO ATTEMPT HAS BEEN MADE TO DELINEATE EACH AND EVERY ITEM THAT REQUIRES DEMOLITION FOR THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL NECESSARY DEMOLITION WORK TO COMPLETE THE PROJECT. ALLEN & MAJOR ASSOCIATES, INC. IS NOT RESPONSIBLE FOR SITE DEMOLITION ITEMS NOT SHOWN ON THE SURVEY, OR SPECIFICALLY NOTED. THE DEMOLITION NOTES AND ARROWS ON THIS PLAN ARE TYPICAL AND DO NOT REFLECT QUANTITY.
4. EXISTING WATER AND SEWER CONNECTIONS SHALL BE CUT AND CAPPED IN ACCORDANCE WITH THE TOWN OF ARLINGTON REQUIREMENTS.
5. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
6. ALL INSTALLED CATCH BASINS AND AREA DRAINS SHALL HAVE A FILTER INSTALLED IMMEDIATELY, AND THE FILTER SHALL BE REMOVED WHEN THE ENTIRE SITE IS STABILIZED.



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	06/23/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB

APPLICANT/OWNER:  
**882-892 MASSACHUSETTS AVE, LLC**  
**452 MASSACHUSETTS AVE, STE 1**  
**ARLINGTON, MA 02474**

PROJECT:  
**892 MASSACHUSETTS AVE**  
**ARLINGTON, MA 02476**

PROJECT NO.	2729-01	DATE:	04-10-20
SCALE:	1" = 10'	DWG. NAME:	C272901
DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC

PREPARED BY:

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environmental consulting • landscape architecture  
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100 COMMERCE WAY, SUITE 5  
WOBURN MA 01801  
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DRAWING TITLE:	SHEET No.
<b>SITE PREPARATION PLAN</b>	<b>C-101</b>





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## MASSACHUSETTS AVENUE

(PUBLIC - VARIABLE WIDTH)

### ZONING SUMMARY TABLE

B2-NEIGHBORHOOD BUSINESS (MIXED-USE <=20,000SF)

ITEM	REQUIRED/ ALLOWED	EXISTING	PROPOSED
MINIMUM LOT AREA	----	14,380± SF	14,380± SF
MINIMUM LOT AREA PER UNIT	----	N/A	654± SF
MINIMUM FRONTAGE	50 FT	208± FT	208± FT
MINIMUM FRONT YARD SETBACK	----	0 FT	2.7 FT
MINIMUM SIDE YARD SETBACK	----	1.3 FT	3.4 FT
MINIMUM REAR YARD SETBACK	20.3 FT	53.6 FT	63.0 FT
LANDSCAPED OPEN SPACE	10%	5.3%	20.1%
USABLE OPEN SPACE	20%	0.0%	0.4%(2)
MAXIMUM HEIGHT	50 FT	13.5± FT	>50
MAXIMUM HEIGHT STORIES	4(1)	1	4
FLOOR AREA RATIO	1.50	0.35	1.23

#### ZONING TABLE NOTES:

- SECTION 5.3.17, FOR BUILDING MORE THAN 3 STORIES IN HEIGHT, AN ADDITIONAL 7.5 FT STEP-BACK SHALL BE PROVIDED BEGINNING AT THE THIRD STORY LEVEL OR 30 FT ABOVE GRADE, WHICHEVER IS LESS. THE UPPER STORY STEP-BACK SHALL BE PROVIDED ALONG ALL BUILDING ELEVATIONS WITH STREET FRONTAGE.
- SECTION 5.3.21. SUPPLEMENTAL REQUIREMENTS IN THE BUSINESS AND INDUSTRIAL DISTRICTS, D. FOR MIXED USES AND ANY PERMITTED RESIDENTIAL USE NOT SPECIFICALLY IDENTIFIED IN THE TABLES IN SECTION 5.5.2, THE MINIMUM OPEN SPACE REQUIREMENTS (COMPUTED FROM THE RESIDENTIAL FLOOR AREA ONLY) SHALL BE 10% LANDSCAPED AND 20% USABLE IN THE B1, B2, B2A, B3, AND B4 DISTRICTS, AND 15 PERCENT USABLE IN THE B5 DISTRICT. A WAIVER MAY BE REQUIRED FROM THE USABLE OPEN SPACE REQUIREMENT.

### PARKING SUMMARY TABLE

USE	CALCULATION	MIN. REQUIRED	TOTAL PROPOSED
APARTMENT BUILDING	1.15 SPACES PER 1 BED UNIT	21	21
	18 X 1.15 = 21 REQUIRED		
OFFICE BUSINESS OR PROFESSIONAL	1 SPACE PER EFFICIENCY UNIT	4	4
	4 X 1 = 4 REQUIRED		
	1 PER 500 SF	N/A	N/A
	1,300 SF (UNDER 3,000 SF PARKING N/A)		
		25	25

#### ADA SPACES REQUIRED:

(15-25) TOTAL PARKING SPACES PROVIDED, 1 SHALL BE THE MINIMUM ADA PARKING PROVIDED, 1 SPACES BEING VAN ACCESSIBLE.

PROVIDED 1 SPACES, 1 BEING VAN ACCESSIBLE.

#### PARKING TABLE NOTES:

- SECTION 6.1.10, C. FOR A MIXED-USE DEVELOPMENT THE FIRST 3,000 SF OF NON-RESIDENTIAL SPACE IS EXEMPT FROM THE PARKING REQUIREMENTS OF THIS SECTION 6.1.
- SECTION 6.1.11, STANDARD PARKING STALLS SHALL BE 8'X16', AND COMPACT SPACES SHALL BE 8'X16'(UP TO 20% ALLOWED WITH S.P.). DRIVE AISLE WIDTH SHALL BE 24' FOR TWO-WAY TRAFFIC.

### LEGEND

PROP. PROPERTY LINE	---
SIGN	+
BOLLARD	•
BUILDING	[Hatched Box]
BUILDING ARCHITECTURE	[Hatched Box]
BUILDING INTERIOR WALLS	[Hatched Box]
CURB	---
PARKING STRIPING	[Hatched Box]
ROADWAY STRIPING	[Hatched Box]
SIDEWALK	[Hatched Box]
ADA ACCESSIBLE RAMP	[Hatched Box]
ADA DET. WARNING SURFACE	[Hatched Box]
SNOW STORAGE	[Hatched Box]
SAW-CUT LINE	---
PARKING COUNT	10
VINYL FENCE	---

### NOTES

- WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR. ALL SITE ITEMS SHALL BE LAID OUT AND AS BUILT BY A LICENSED LAND SURVEYOR.
- THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

2	06/23/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB
REV	DATE	DESCRIPTION

#### APPLICANT/OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

#### PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
SCALE:	1" = 10'	DWG. NAME:	C2729-01
DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC

#### PREPARED BY:

**ALLEN & MAJOR ASSOCIATES, INC.**  
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environmental consulting • landscape architecture  
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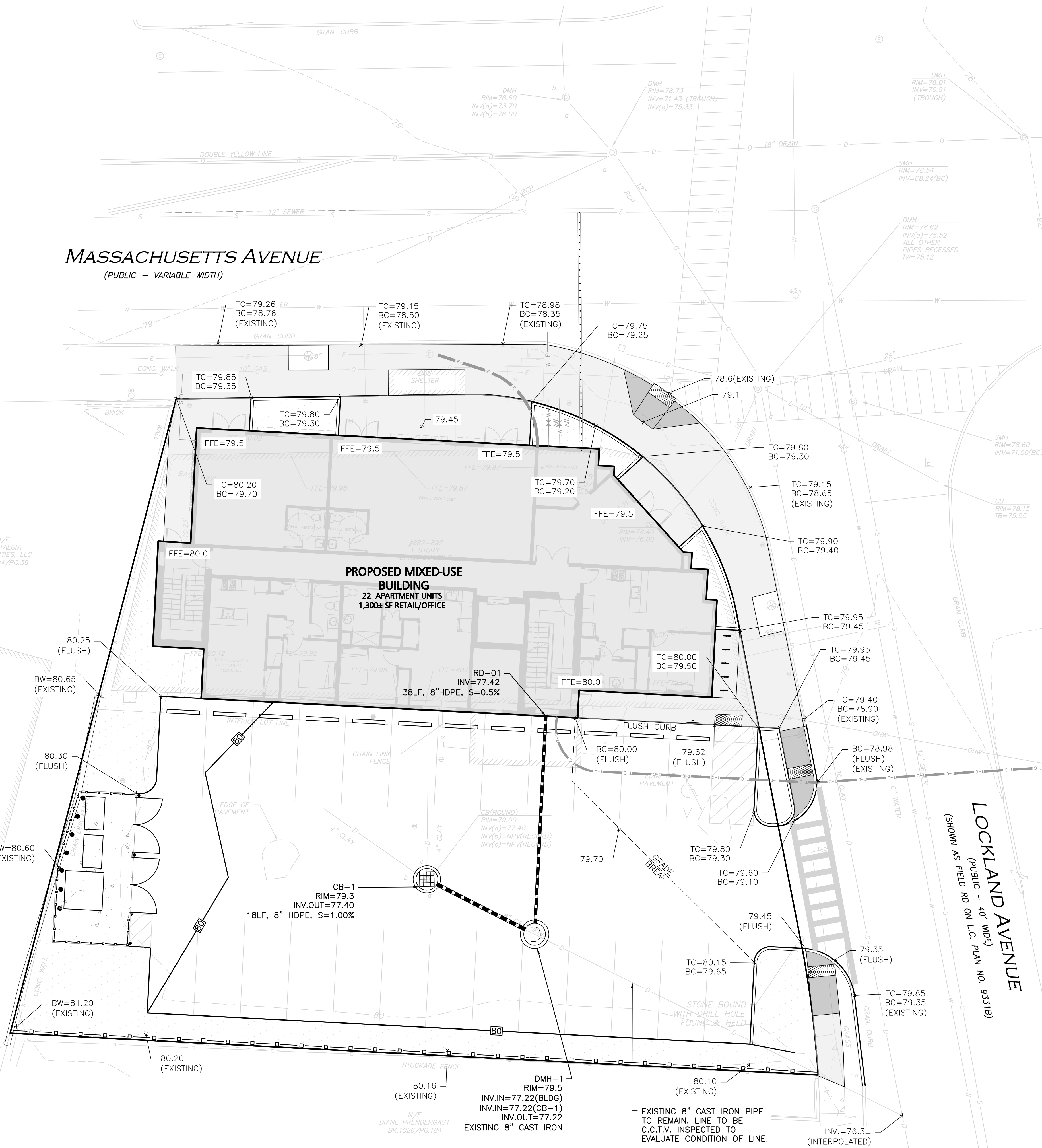
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DRAWING TITLE:	SHEET No.
LAYOUT & MATERIALS PLAN	C-102





MASSACHUSETTS AVENUE  
(PUBLIC - VARIABLE WIDTH)



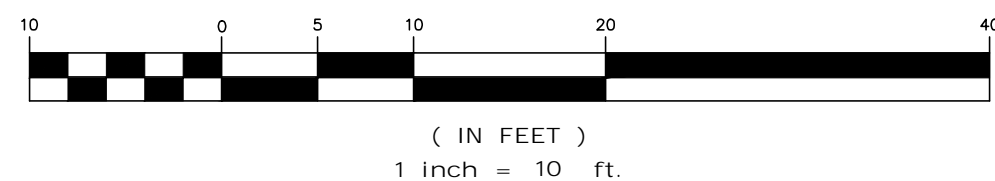
LEGEND

DRAIN MANHOLE	
CATCH BASIN	
DRAIN LINE	
10' CONTOUR	
2' CONTOUR	
SPOT GRADE	

PLAN NOTES:

- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITY CONNECTIONS SHOULD BE COORDINATED WITH THE MEP PRIOR TO CONSTRUCTION.
- EXISTING DRAINAGE STRUCTURES TO REMAIN ARE TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
- IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
- CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ENSURE A SMOOTH FIT AND CONTINUOUS GRADE.
- CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
- THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT FOR THE FINAL LOCATIONS OF PROPOSED ROOF DRAINS. LOCATIONS ARE SHOWN HEREON FOR COORDINATION PURPOSES ONLY.
- WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
- ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTIES DUE TO THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT THEIR OWN EXPENSE.
- ALL PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED AND RESTORED BY A LAND SURVEYOR LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ADDITIONAL BENCHMARK INFORMATION IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING BENCHMARKS. IF IT IS NECESSARY TO RELOCATE A BENCHMARK, IT SHALL BE RELOCATED BY A MASSACHUSETTS LAND SURVEYOR AND DONE SO AT THE CONTRACTOR'S EXPENSE.
- ALL PERMITS AND APPROVALS NECESSARY FROM AGENCIES GOVERNING THE WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.
- CONSTRUCTION DURING WET WEATHER OR WINTER CONDITIONS IS TO BE ANTICIPATED AND PROVISIONS TO ADEQUATELY ADDRESS THESE CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS INCLUDING THE TOWN OF ARLINGTON, MADOT, MADEP, MWRA, MUTCD, AND AASHTO.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY ALLEN & MAJOR ASSOCIATES DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK, OR THE OWNER'S EMPLOYEES, CUSTOMERS, OR THE GENERAL PUBLIC. THE SEAL OF THE ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PROVIDE THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), STATE, AND LOCAL REGULATIONS.
- THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.

GRAPHIC SCALE



PROFESSIONAL ENGINEER FOR  
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REV	DATE	DESCRIPTION

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452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
SCALE:	1" = 10'	DWG. NAME:	C272901
DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC

PREPARED BY:

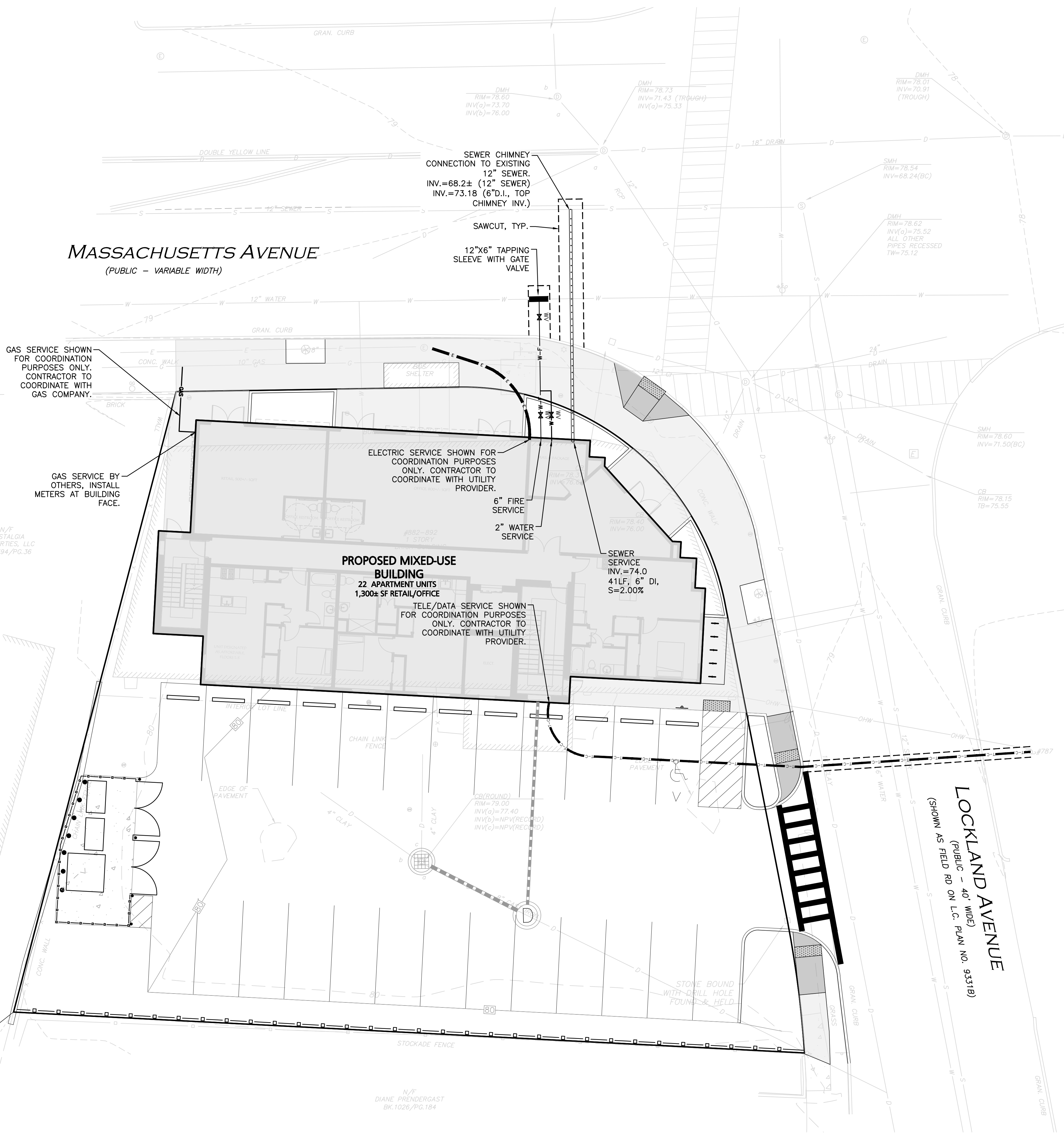
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DRAWING TITLE:	SHEET No.
GRADING & DRAINAGE PLAN	C-103

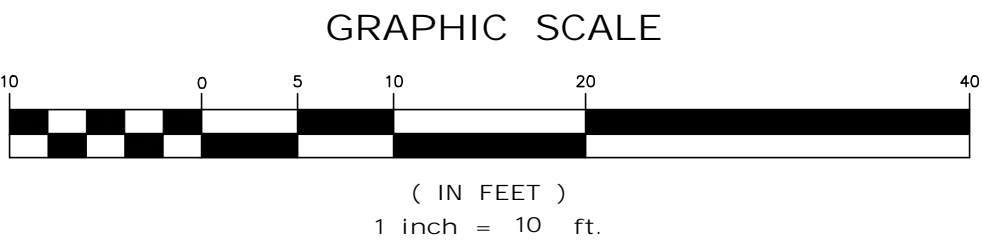




LEGEND	
SEWER MANHOLE	⊙
SEWER CLEANOUT	⊙
SEWER VENT	⊙
SEWER LINE	—
WATER LINE	—W—
WATER (FIRE SERVICE)	—W-F—
WATER (DOMESTIC SERVICE)	—W-D—
WATER VALVE	WV
GAS LINE	—GAS—
GAS VALVE	GV
ELECTRICAL CONDUIT	—E—
TELE/CABLE CONDUIT	—T-C—

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
2. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER SERVICES CROSS STORM DRAIN AND SEWER LINES. WATER SERVICES SHALL BE ENCASED IN CONCRETE REGARDLESS OF CLEARANCE WHEN PASSING BELOW STORM DRAIN AND SEWER LINES. ENCASEMENT SHALL EXTEND ALONG WATER SERVICE A MINIMUM DISTANCE OF EIGHT FEET CENTERED ON THE CROSSING POINT OF THE OTHER PIPE AS MEASURED NORMALLY FROM ALL POINTS ALONG THE PIPE.
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
4. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
5. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.



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DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC

PREPARED BY:

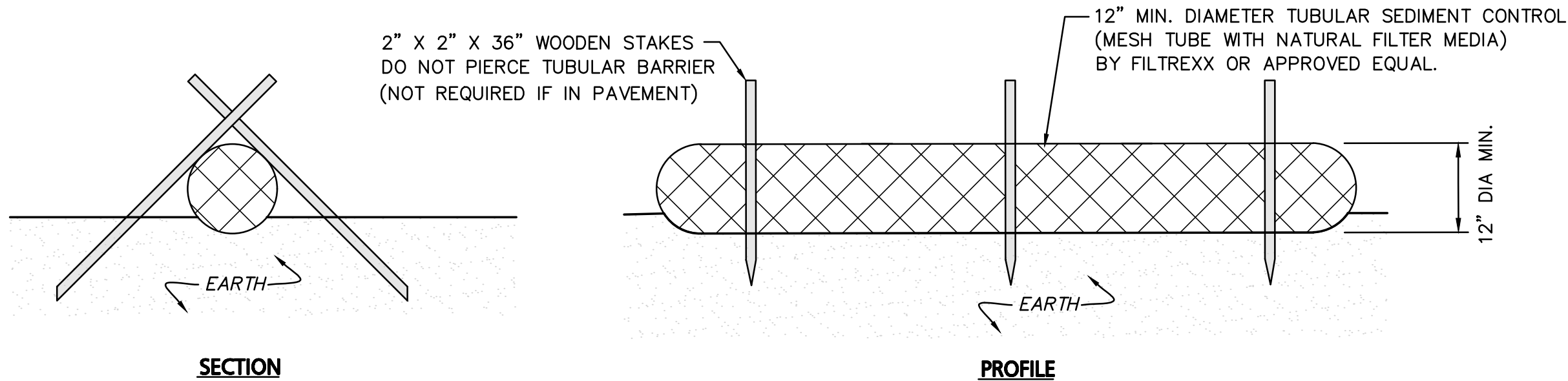
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DRAWING TITLE:	SHEET No.
UTILITIES PLAN	C-104





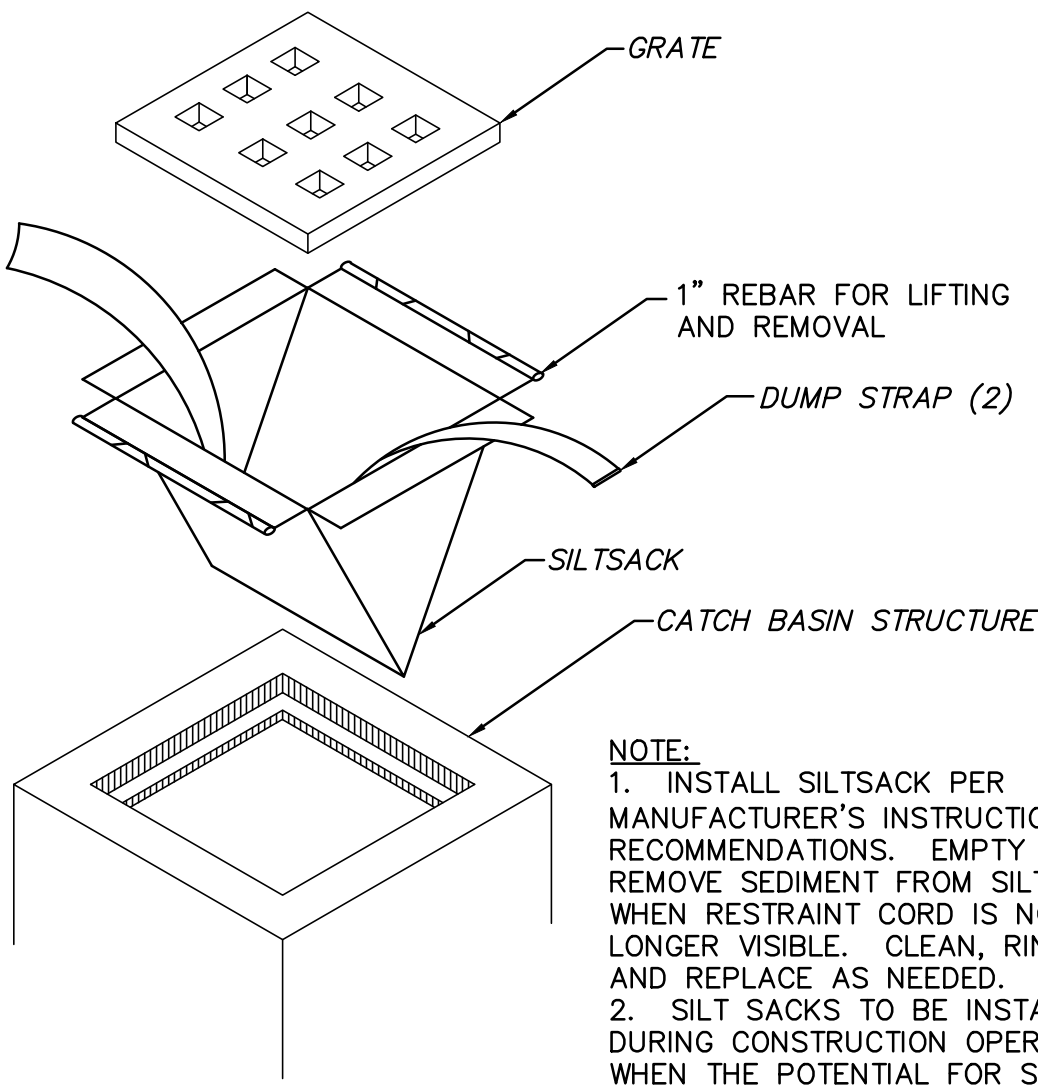
SECTION

PROFILE

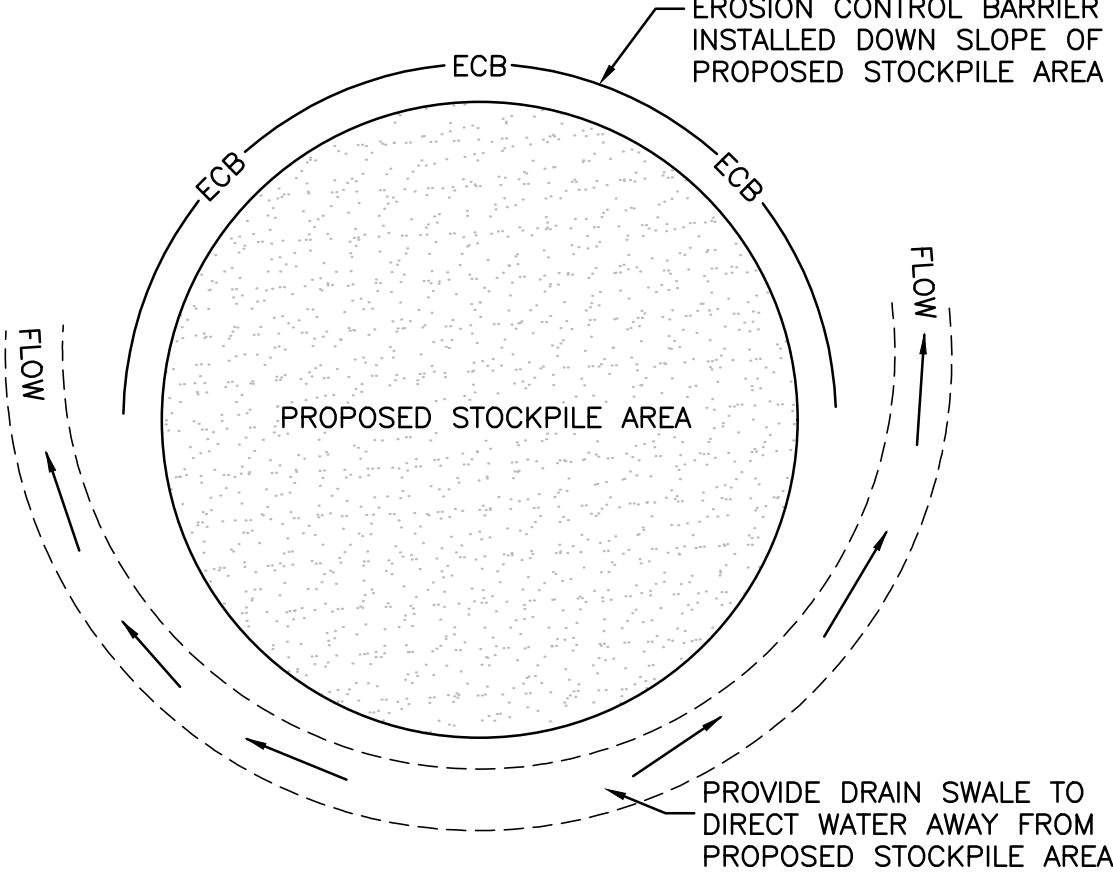
NOTES:

1. ALL MATERIALS TO MEET MANUFACTURERS SPECIFICATIONS.
2. INSTALL WOODEN STAKES IN A CRISS-CROSS PATTERN EVERY 8' ON CENTER.
3. OVERLAP TUBULAR BARRIER SEGMENTS A MINIMUM OF 12".
4. THE CONTRACTOR SHALL MAINTAIN THE TUBULAR BARRIERS IN A FUNCTIONAL CONDITION AT ALL TIMES. THE CONTROLS SHALL BE ROUTINELY INSPECTED BY THE CONTRACTOR.
5. WHERE THE TUBULAR BARRIERS REQUIRE REPAIR OR SEDIMENT REMOVAL, IT WILL BE COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL COST.
6. AT A MINIMUM, THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE WHEN THEY REACH 1/3 THE EXPOSED HEIGHT OF THE BARRIER.

TUBULAR SEDIMENT BARRIER  
NOT TO SCALE

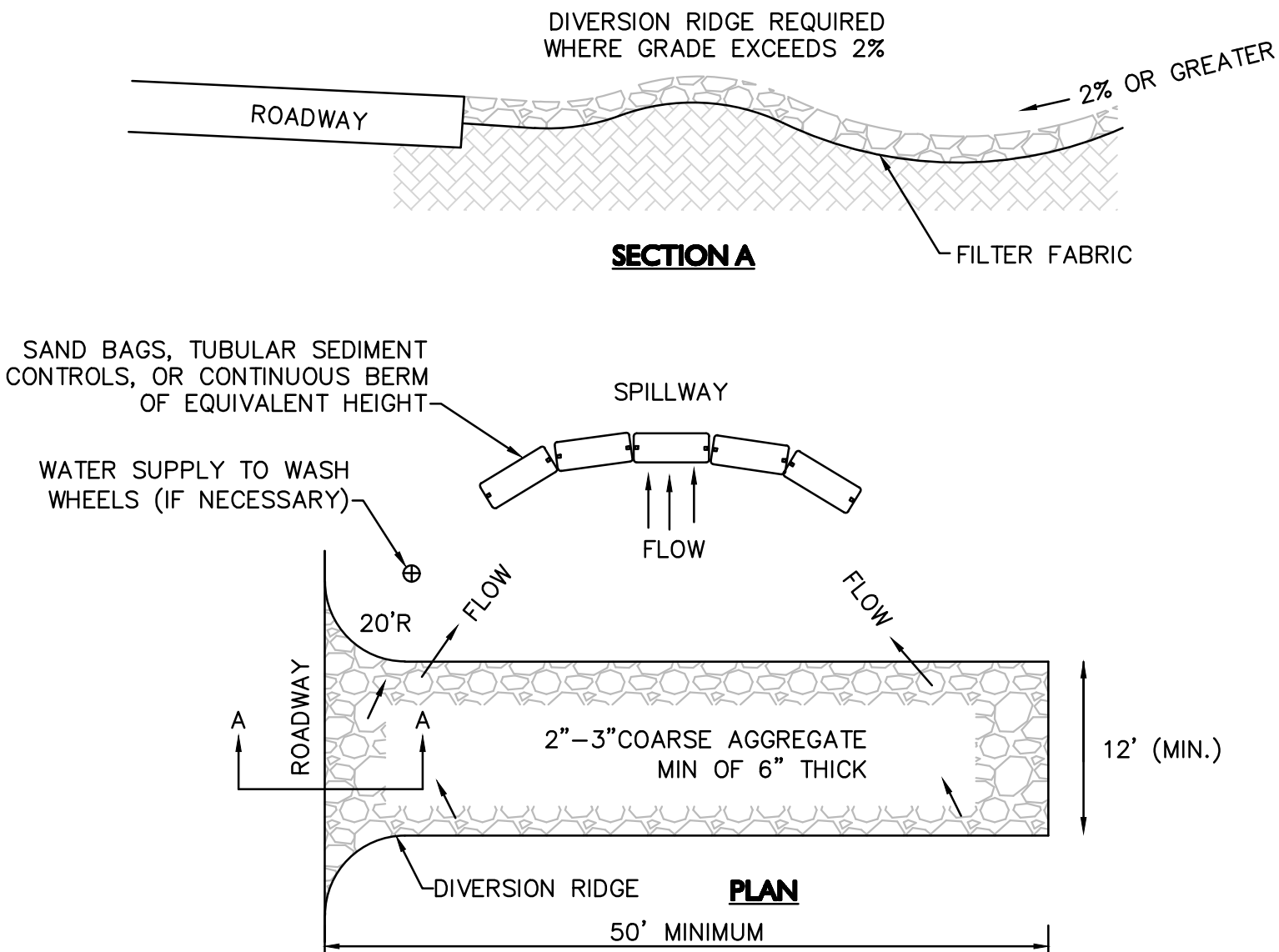


SILTSACK INLET DETAIL  
NOT TO SCALE

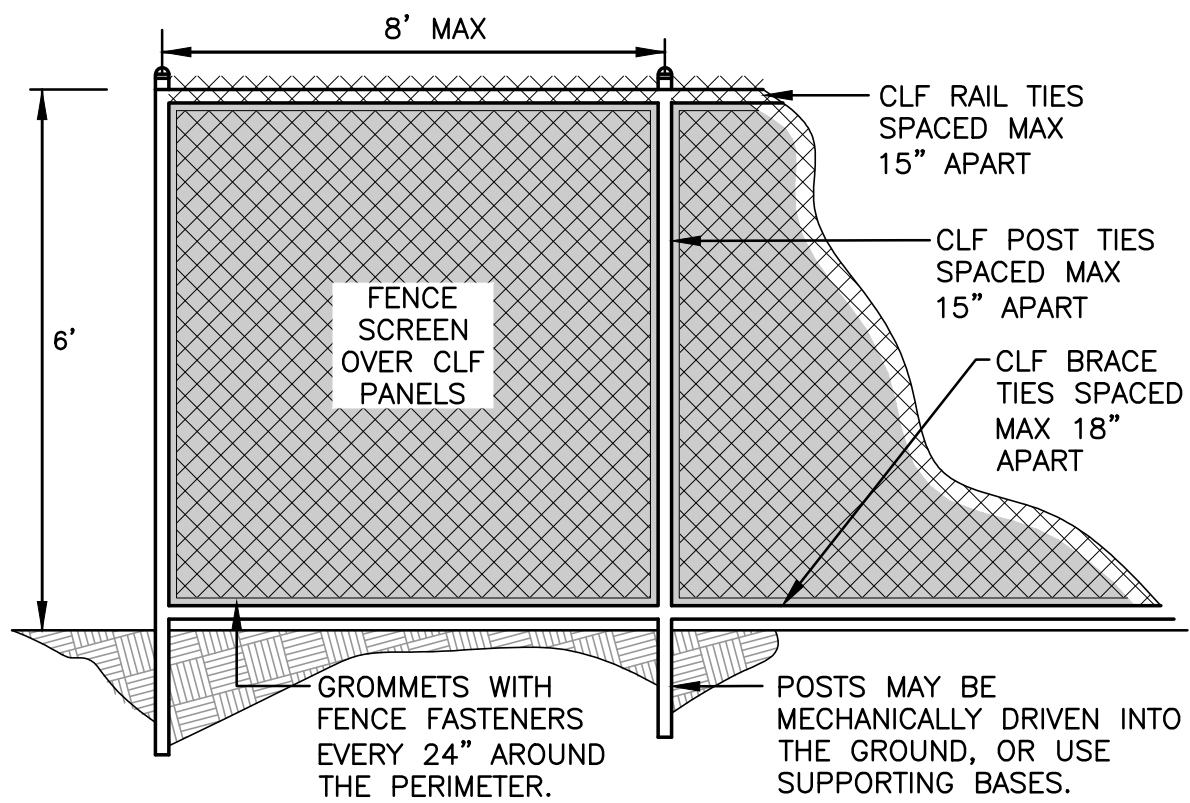


- NOTES:
1. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH STRAW AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
  2. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 1LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH STRAW MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

STOCKPILE PROTECTION DETAIL  
NOT TO SCALE

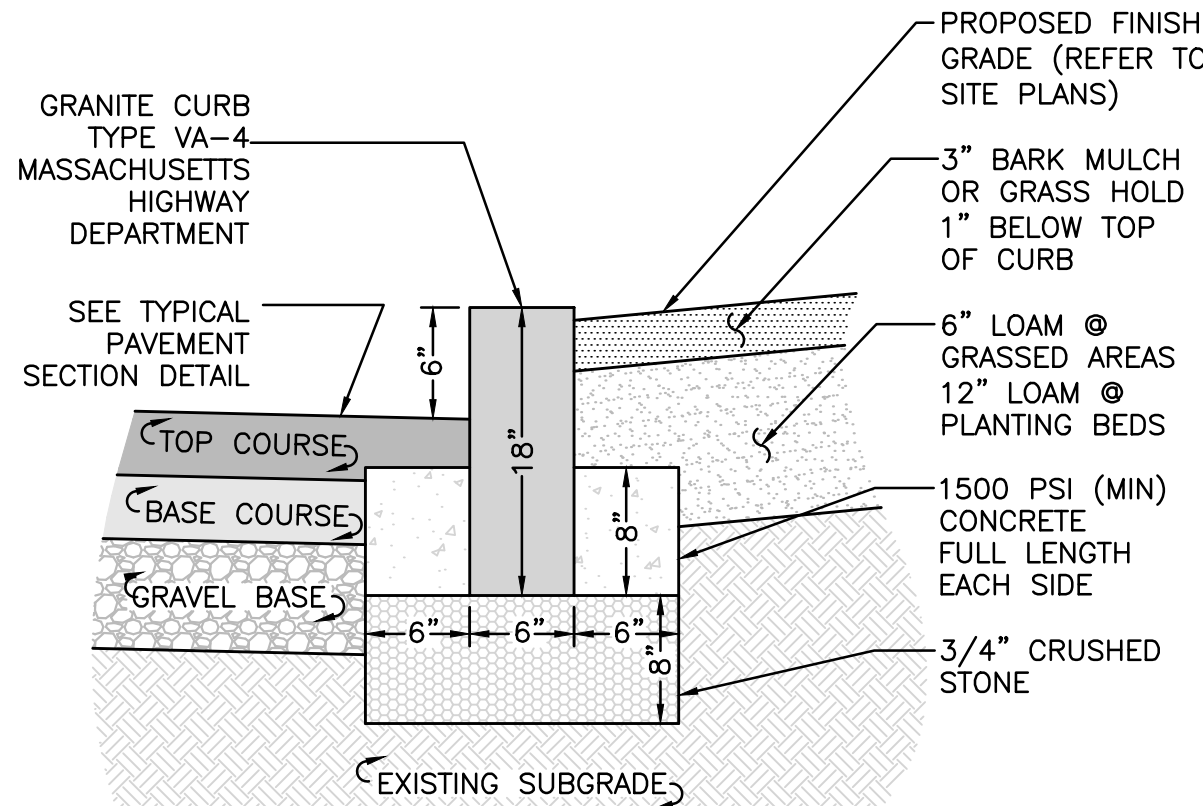


TEMPORARY CONSTRUCTION ENTRANCE/EXIT  
NOT TO SCALE

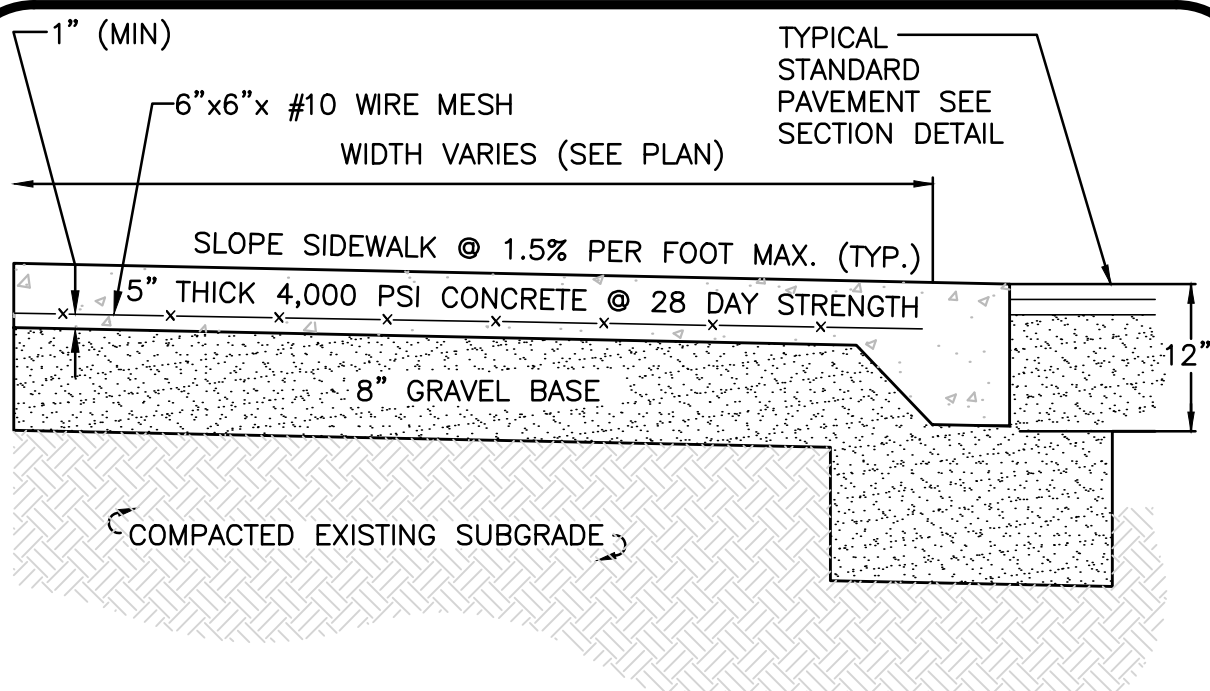


- NOTES:
1. SCREEN MATERIAL SHALL BE MADE FROM KNITTED HIGH DENSITY POLYETHYLENE WITH UV ADDITIVES.
  2. SCREEN FILAMENT STRENGTH SHALL BE A MINIMUM OF 50LBS/FT.
  3. SCREEN MATERIAL BREAK STRENGTH SHALL BE A MINIMUM OF 500 LBS/FT.
  4. SCREEN SHADE / WIND BLOCKAGE SHALL BE A MINIMUM OF 85%.
  5. SCREEN COLOR SHALL BE GREEN OR BLACK.

TEMPORARY CONSTRUCTION FENCE w/ SCREEN  
NOT TO SCALE

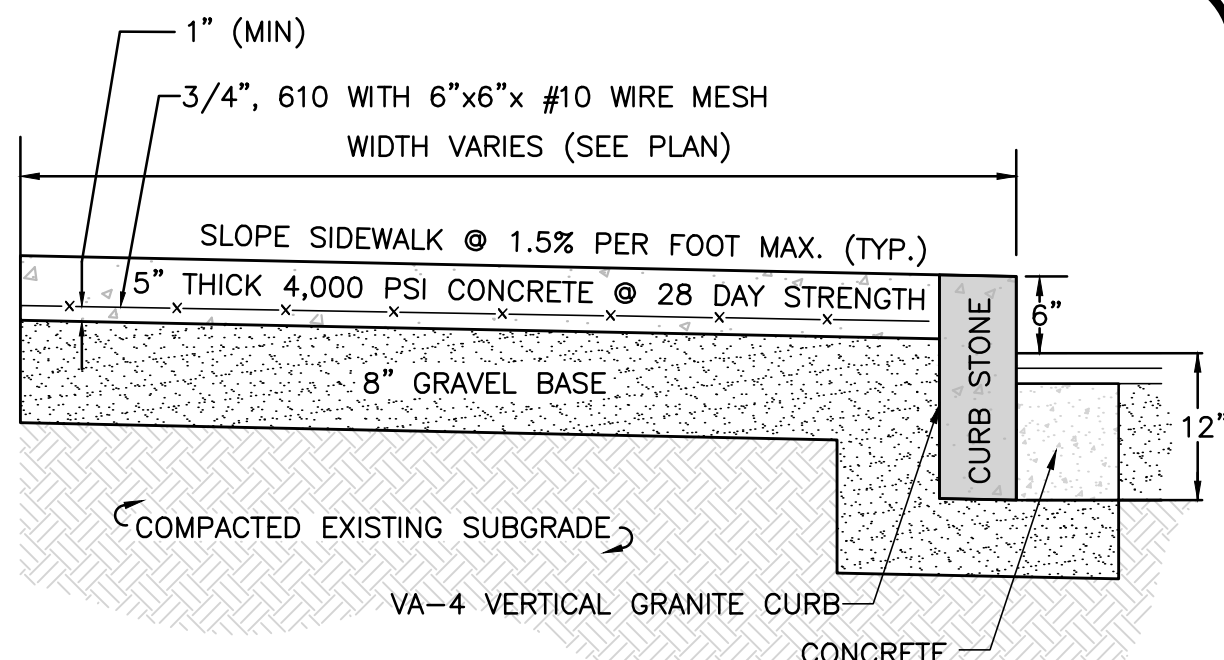


VERTICAL GRANITE CURB  
NOT TO SCALE



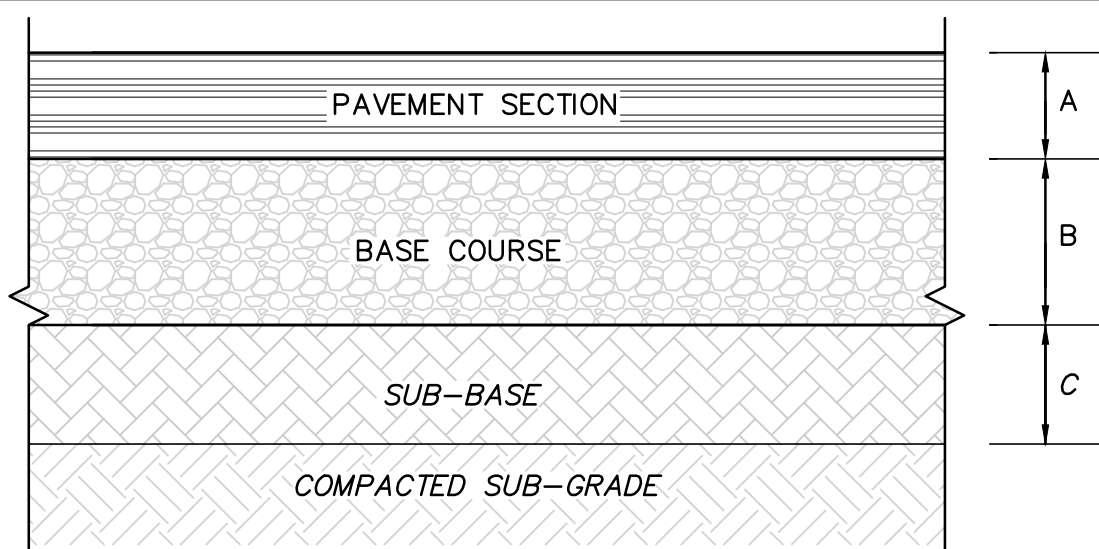
- NOTES:
1. SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER WITH PREMOLDED FILLER.
  2. SEE PLAN FOR ELEVATIONS
  3. SIDEWALK CROSS SLOPE TO BE 1.5% MAX & SIDEWALK LONGITUDINAL RUNNING SLOPE TO BE 4.5% MAX, TYP.
  4. APPLY BRUSH MARKS PERPENDICULAR TO TRAVEL PATH.

CONCRETE SIDEWALK  
NOT TO SCALE



- NOTES:
1. SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER AND PREMOLDED FILLER.
  2. SEE PLAN VIEW FOR ELEVATIONS AT CURB
  3. SIDEWALK CROSS SLOPE TO BE 1.5% MAX & SIDEWALK LONGITUDINAL RUNNING SLOPE TO BE 4.5% MAX, TYP.

CONCRETE SIDEWALK WITH VGC CURBSTONE  
NOT TO SCALE



- NOTES:
1. PAVEMENT SECTION, BASE COURSE, AND SUBGRADE SHALL BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. IN THE ABSENCE OF A GEOTECHNICAL ENGINEER'S RECOMMENDATION, THE MATERIALS AND THICKNESS SHALL BE AS SHOWN HEREON.
  2. SUBGRADE SHALL BE COMPACTED TO 95% OF PROCTOR
  3. EXISTING SUBSURFACE SOILS SHALL BE PROOF-ROLLED.

MATERIALS AND THICKNESSES:

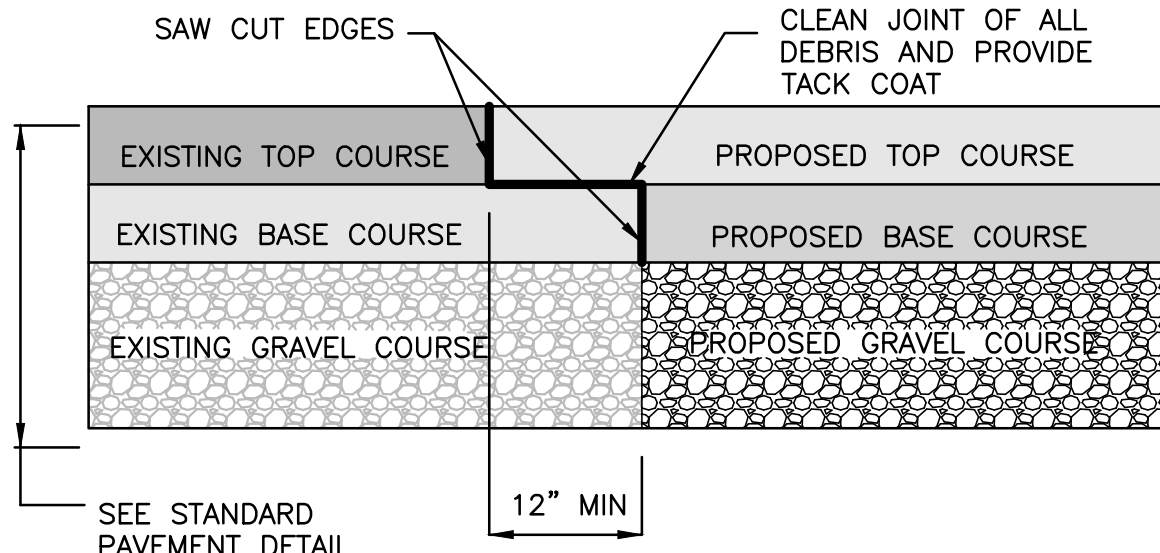
A = 1.5" ASPHALT CONCRETE - SURFACE COURSE (M3.11.0, TABLE A, TOP COURSE)  
2.5" ASPHALT CONCRETE - BINDER COURSE (M3.11.0, TABLE A, BINDER COURSE)

B = 6" PROCESSED GRAVEL BASE (MHD M2.01.7)

C = 12" BANK RUN GRAVEL MHD M1.03.0 TYPE B)

ASPHALT PAVEMENT SECTION  
NOT TO SCALE

NOTE:  
TACK COAT - PROVIDE EMULSIFIED ASPHALT WHICH CONFORMS TO THE REQUIREMENTS OF THE STATE SPECIFICATIONS, DILUTED WITH ONE PART WATER TO ONE ONE PART ASPHALT FOLLOWING AASHTO M140/ASTM D997, OR AASHTO M208/ASTM D2397, SS-1H, CSS-1, OR CSS-1H.



PAVEMENT KEY CUT DETAIL  
NOT TO SCALE



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

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PROJECT NO. 2729-01 DATE: 04-10-20

SCALE: AS SHOWN DWG. NAME: C2729-01

DESIGNED BY: ARM CHECKED BY: BDJ/RC

PREPARED BY:



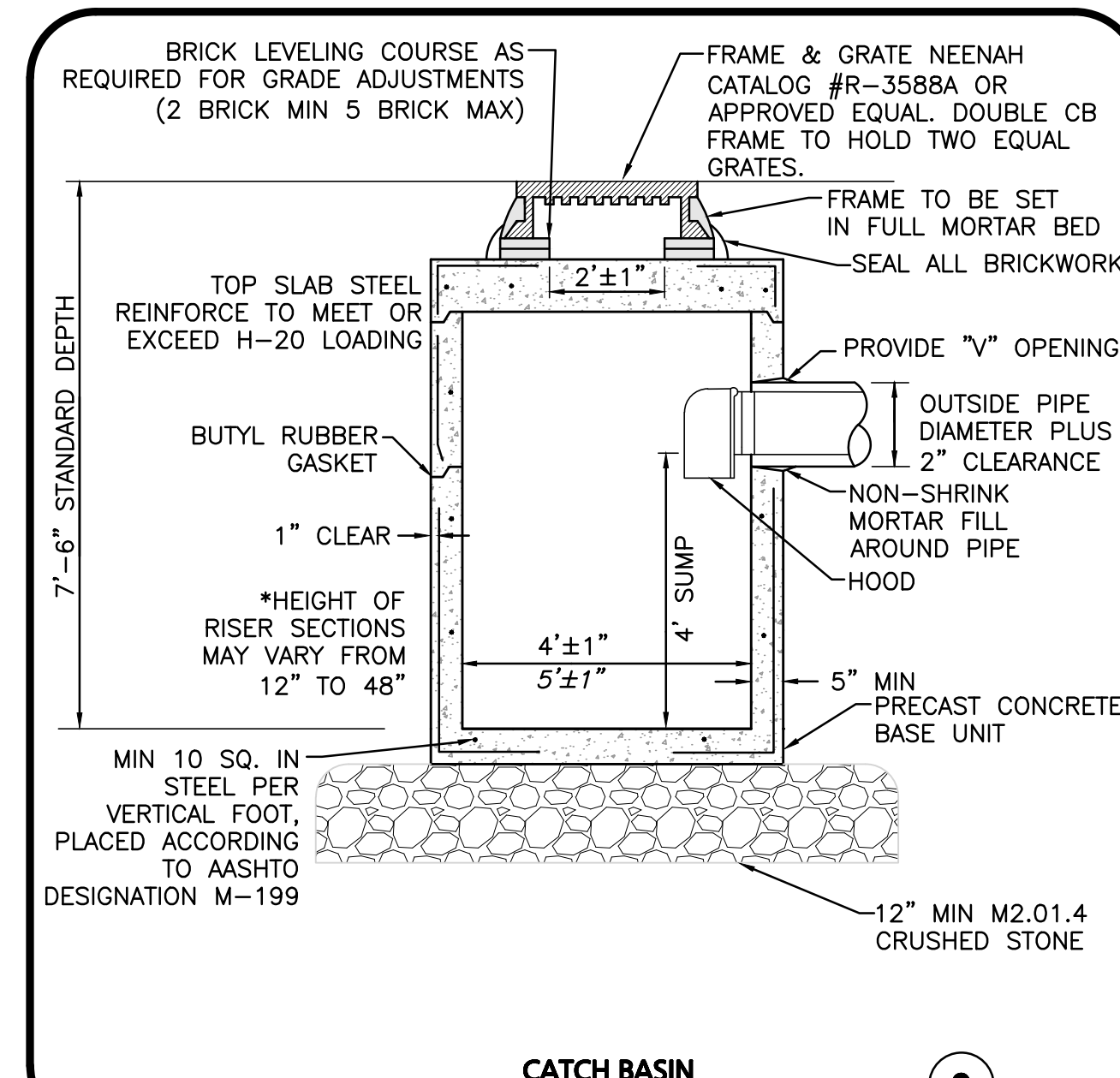
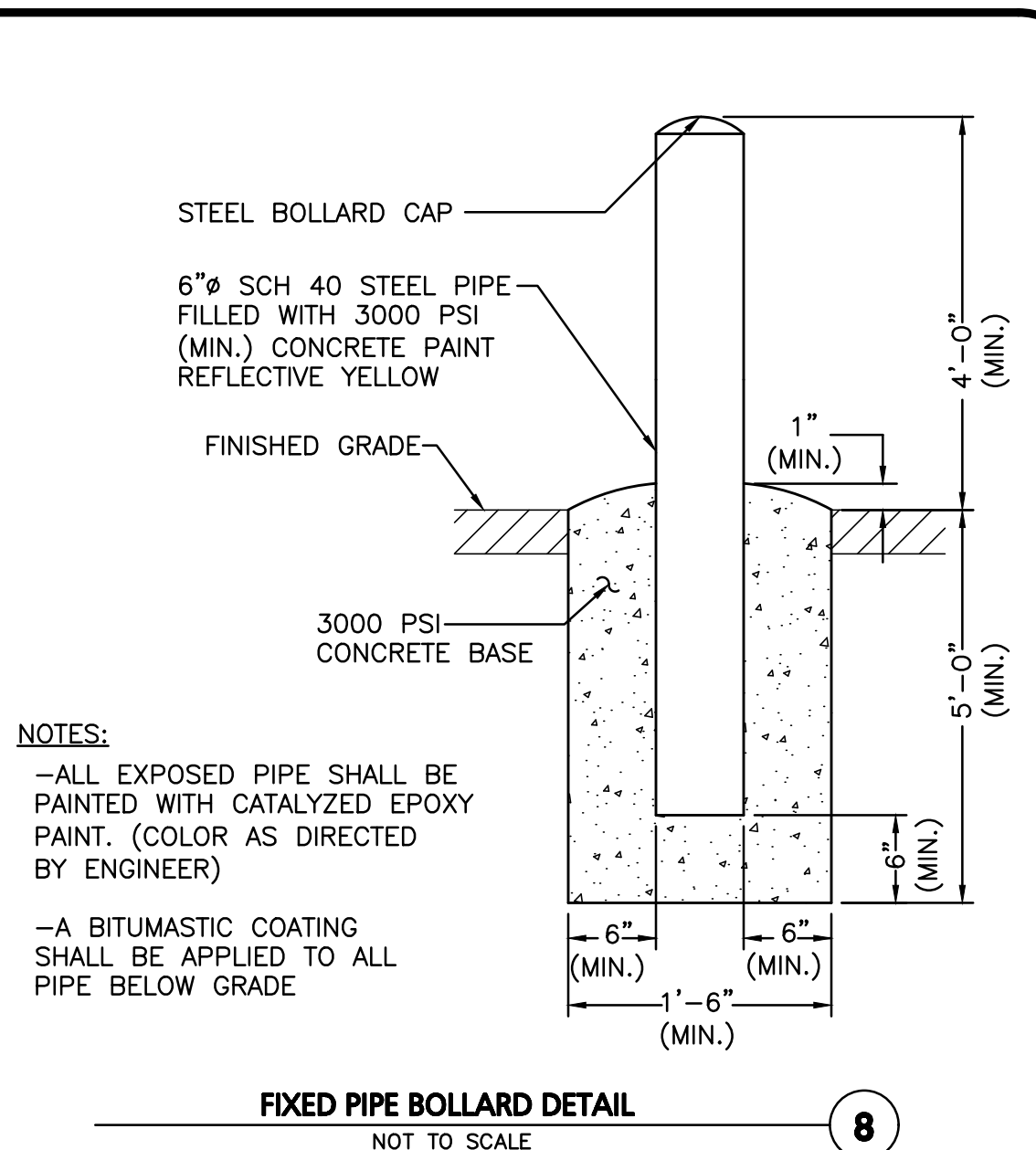
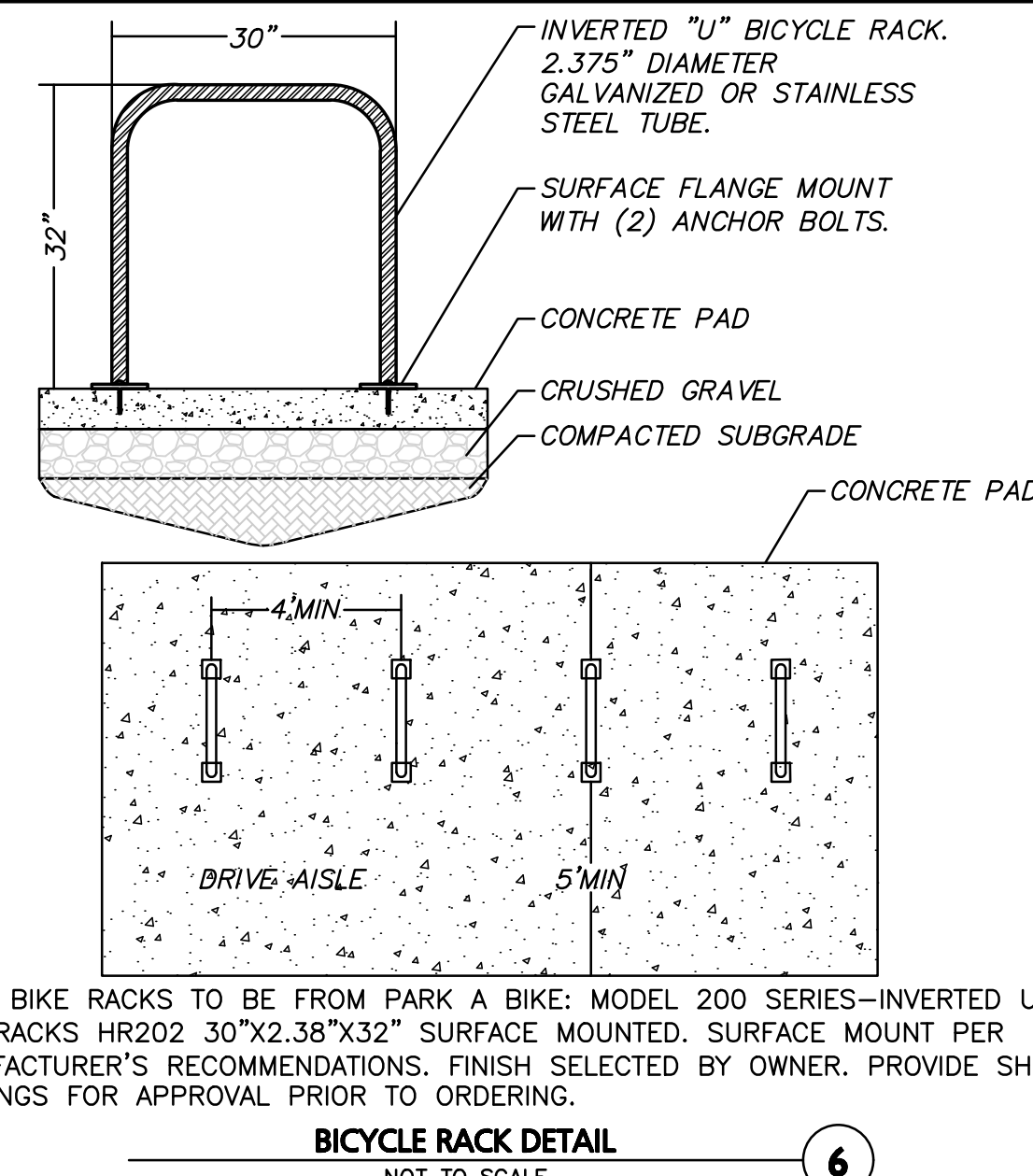
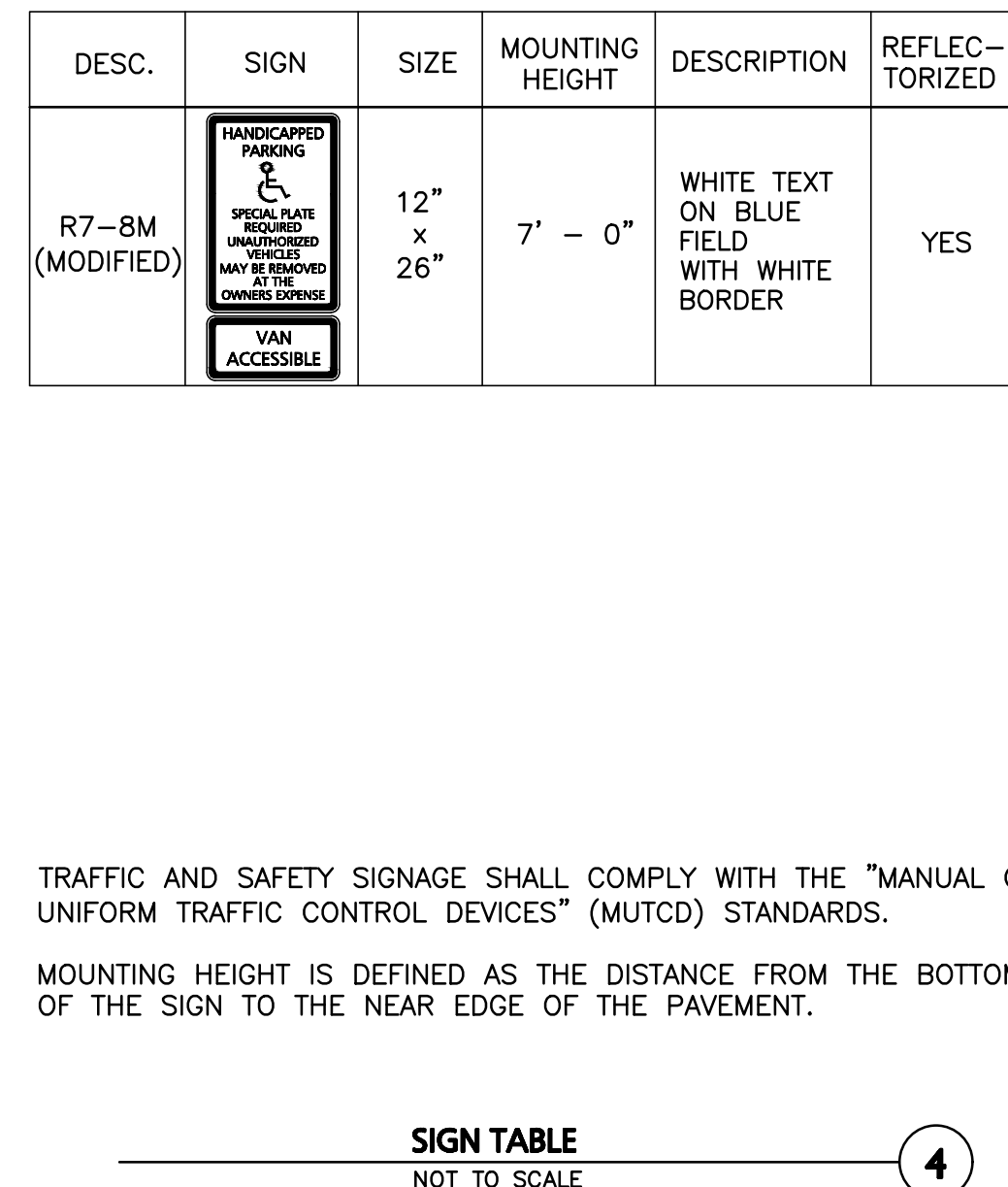
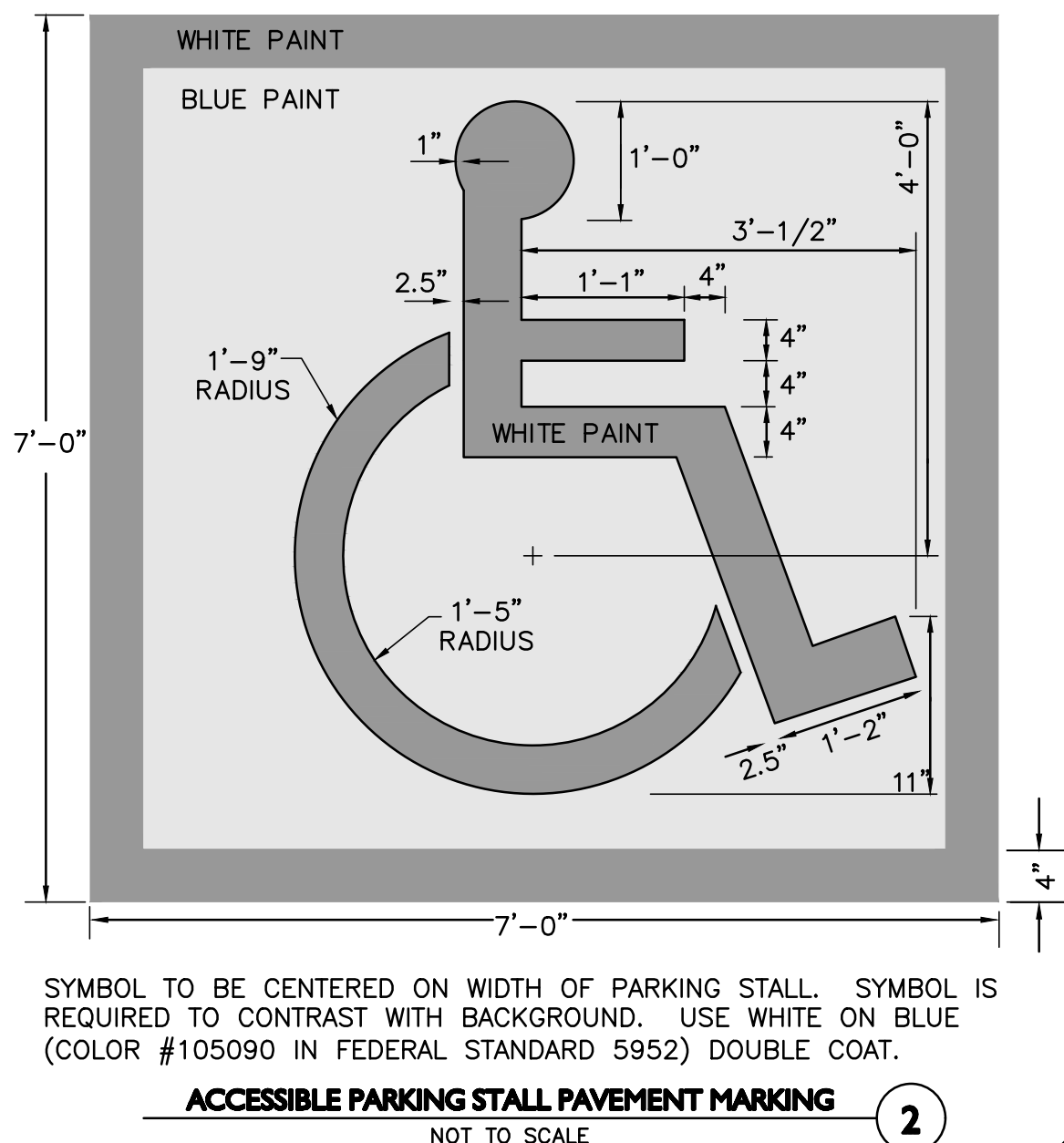
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DRAWING TITLE: SHEET No.

DETAILS C-501





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ALLEN & MAJOR ASSOCIATES, INC.

2	06/23/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB
REV	DATE	DESCRIPTION

APPLICANT\OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

**PROJECT:**

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
SCALE:	AS SHOWN	DWG. NAME:	C2729-01
DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC

PREPARED BY:



ALLEN & MAJOR  
ASSOCIATES, INC.

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environmental consulting ♦ landscape architecture  
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WOBURN MA 01801  
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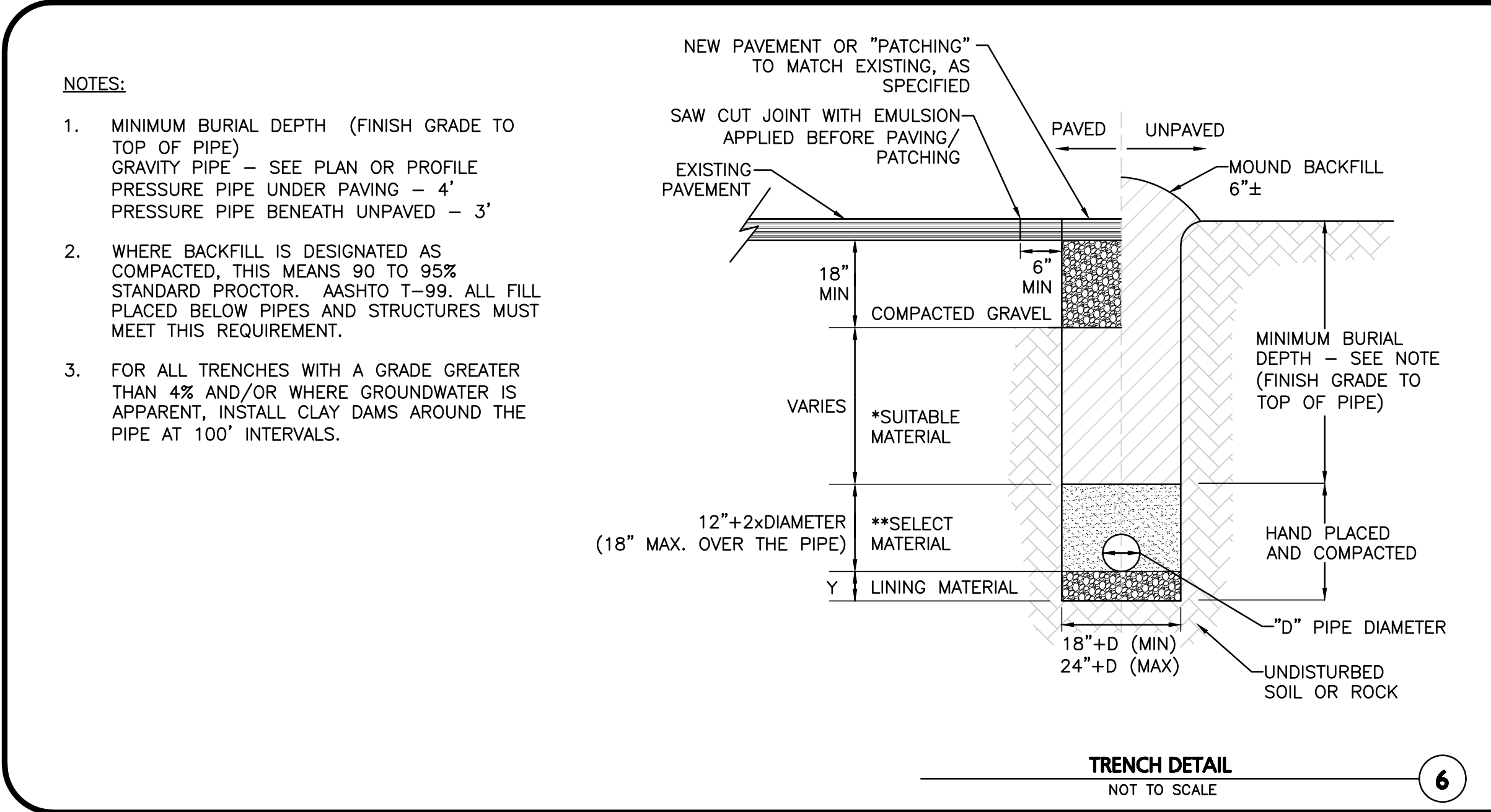
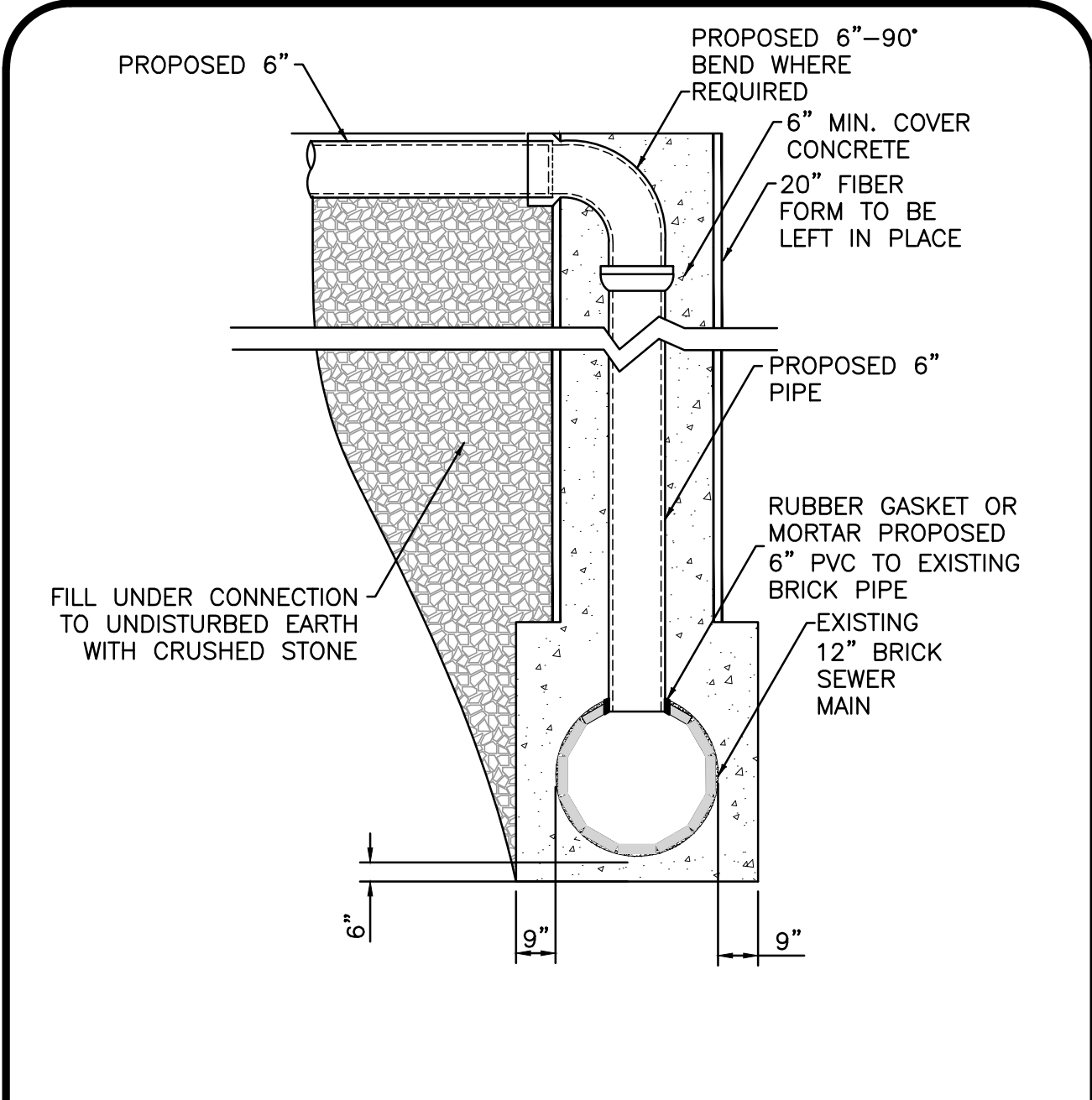
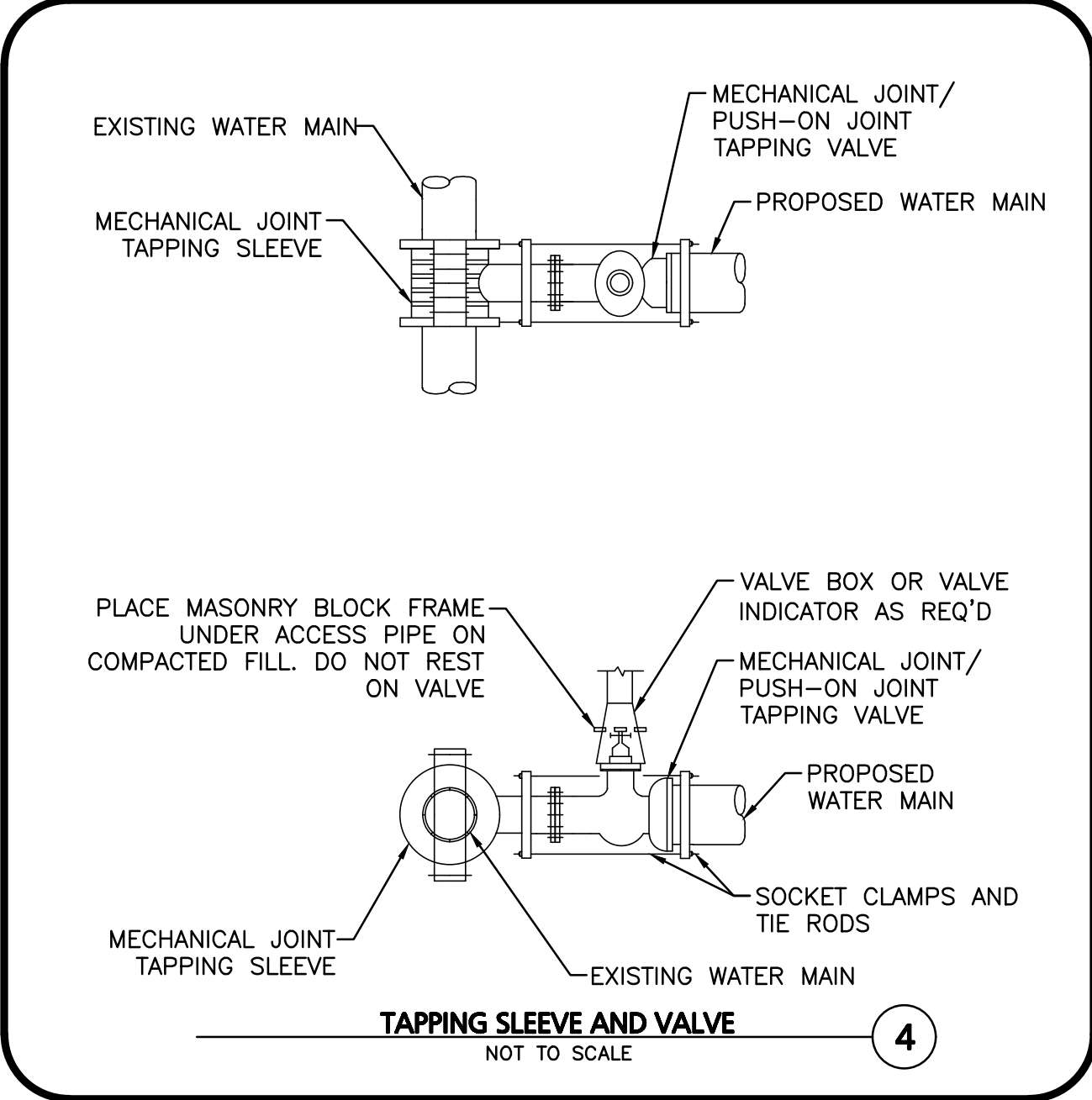
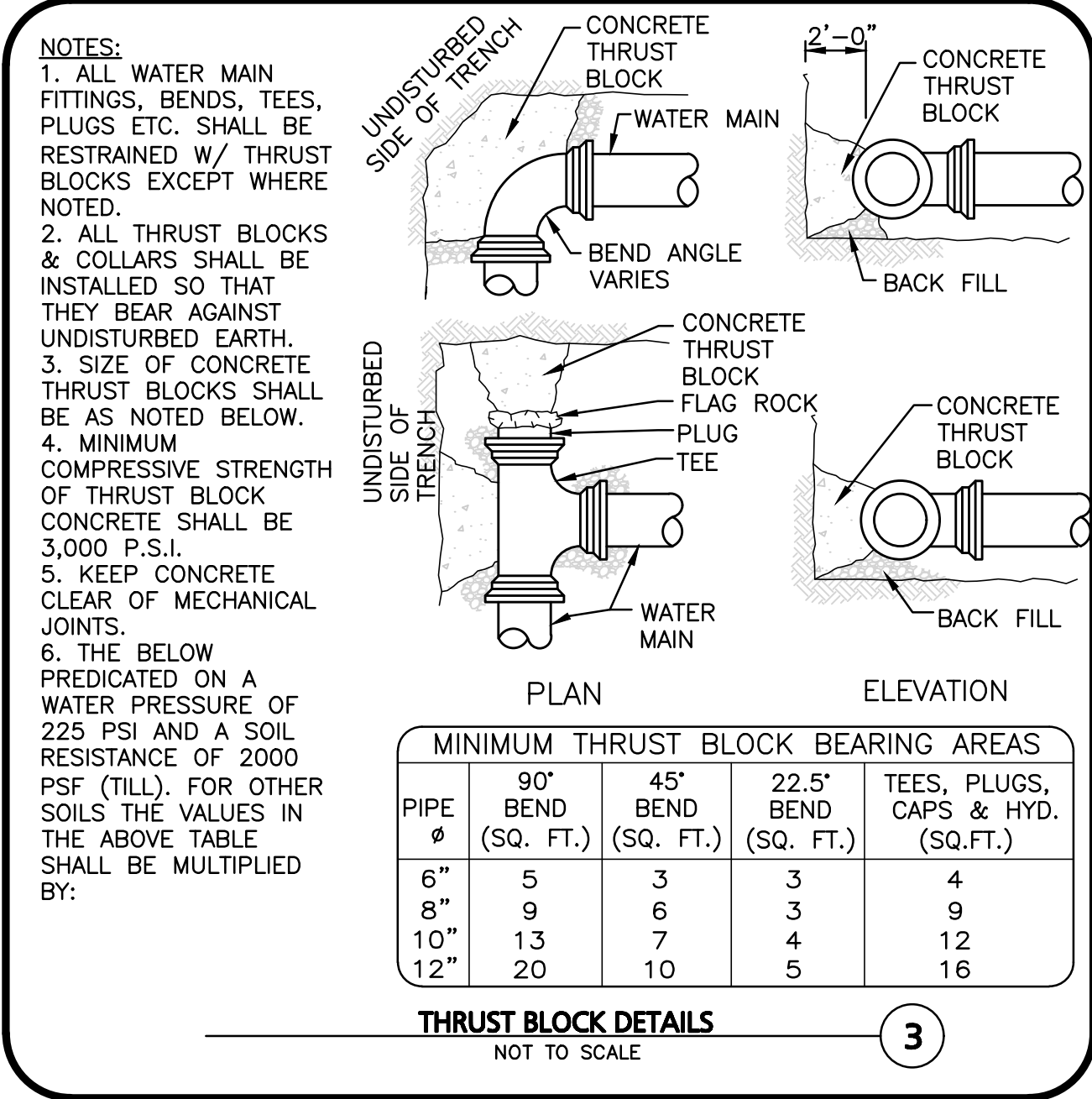
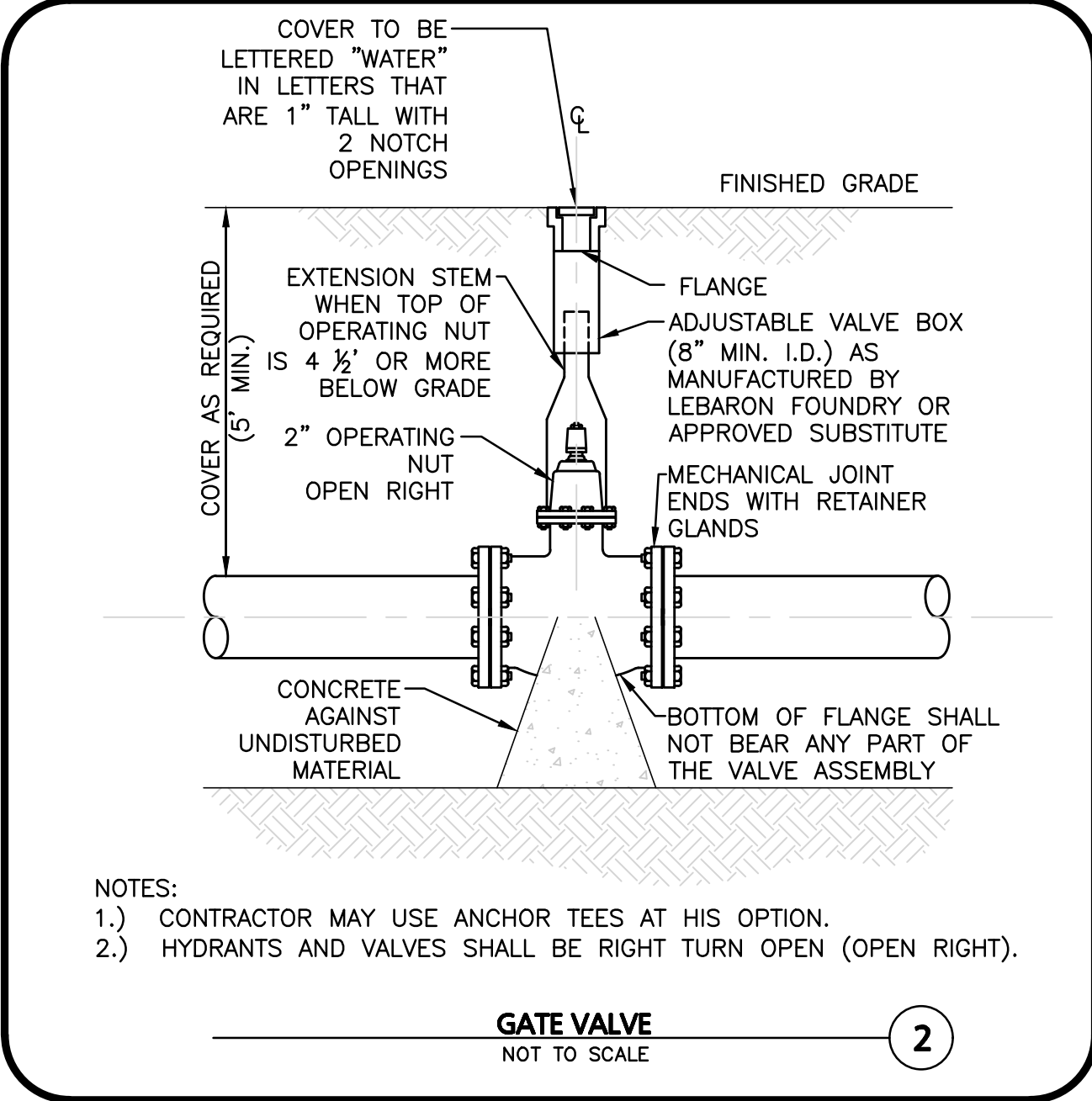
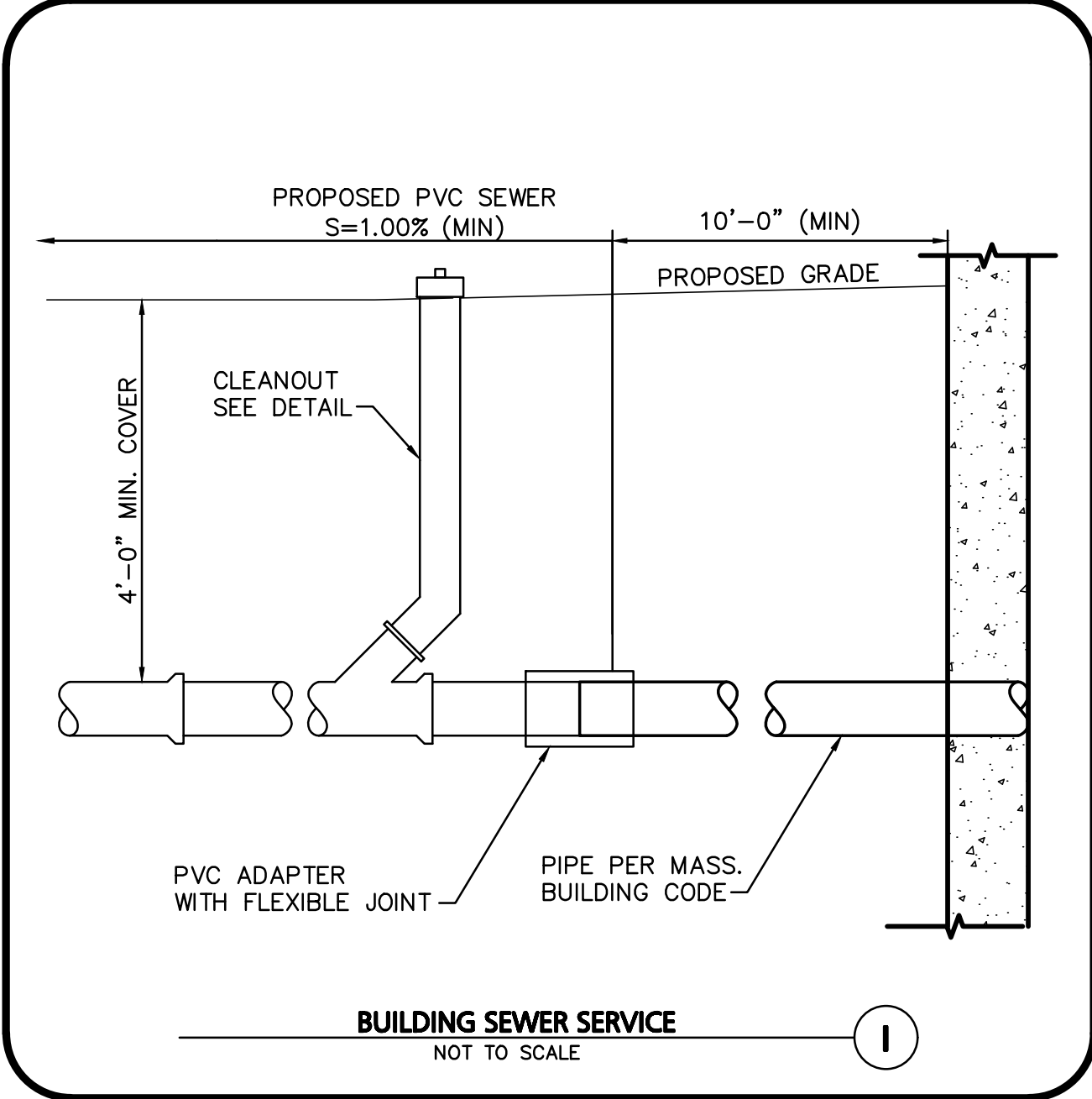
**DRAWING TITLE:**

**SHEET No.**

## DETAILS

C-502





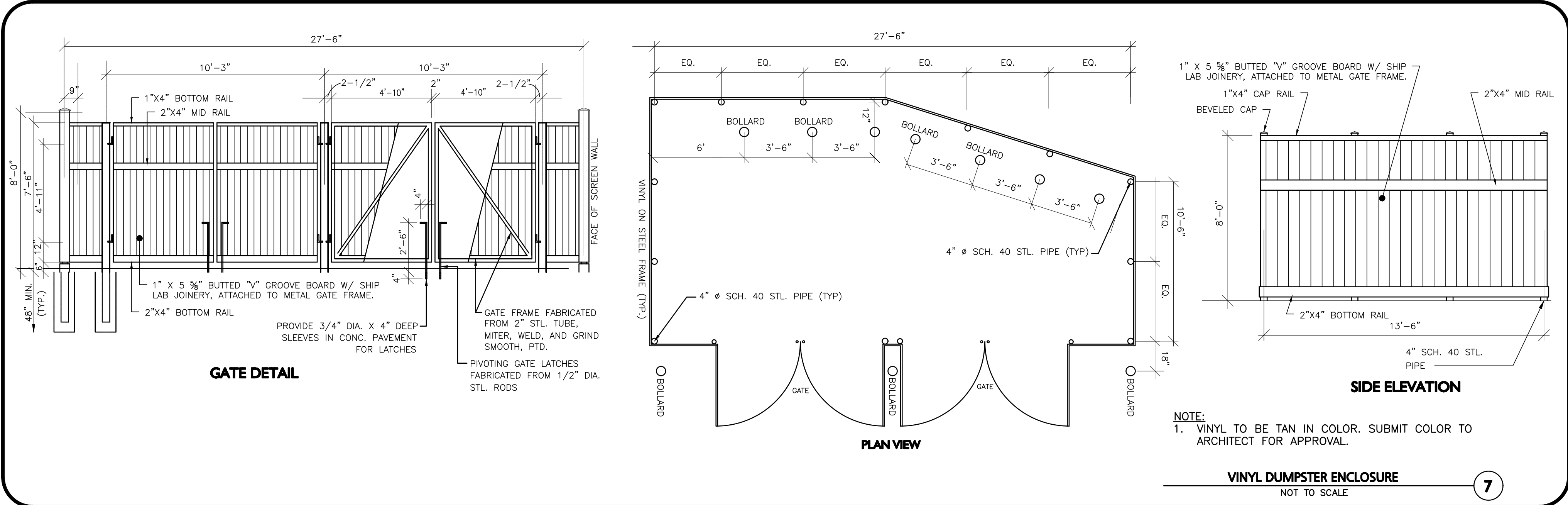
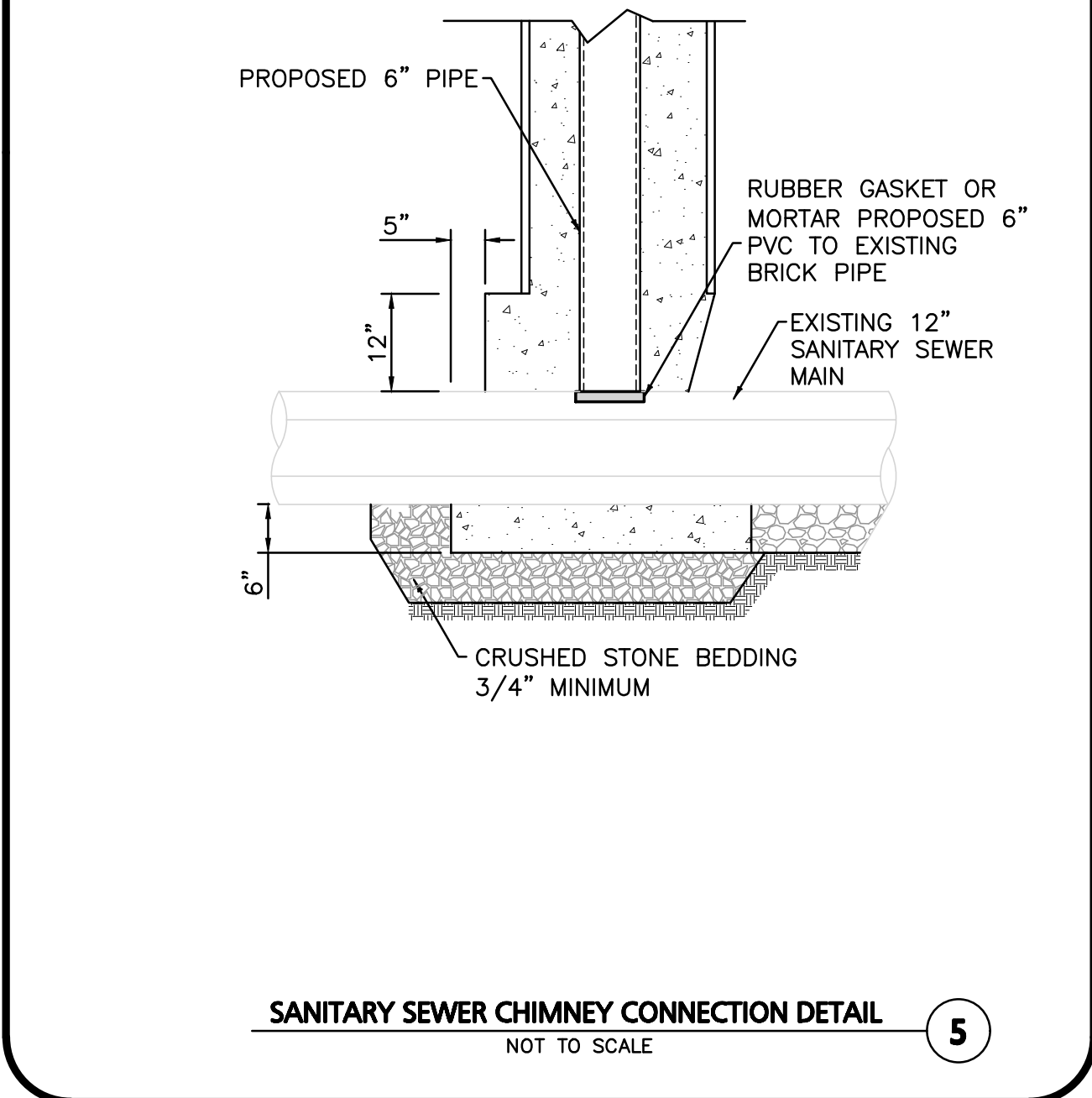
CONDITION & PIPE	**SELECT MATERIAL	LINING MATERIAL	Y-DIMENSION
DUCTILE IRON "ORDINARY SOIL"	TYPE I, II, OR III	SAND OR TYPE III	3"
RCP "ORDINARY SOIL"	TYPE II OR III	SAND OR TYPE III	3"
ALL PIPE OVER BEDROCK OR LEDGE	TYPE II OR III	SAND OR TYPE III	8"
DUCTILE IRON IN CLAY OR MUCK	TYPE II OR III	SAND	4"
RCP IN CLAY	TYPE II OR III	SAND	8"
ALL PLASTICS	TYPE III	SAND OR TYPE III	6"

\* SUITABLE MATERIAL SHALL CONTAIN NO STONE GREATER THAN 4" IN DIAMETER, NO FROZEN LUMPS, AND ONLY MINOR AMOUNTS OF CLAY OR ORGANIC MATERIAL. ALL MATERIAL TO BE PLACED IN MAX 12" LIFTS AND COMPACTED BEFORE PLACING NEXT LIFT.

\*\*TYPE I MATERIAL SHALL BE EITHER GRAVEL OR EXCAVATED MATERIAL CONTAINING NO STONES GREATER THAN 1.5" DIAMETER, NO FROZEN LUMPS, CLAY OR ORGANIC MATERIAL.

\*\*TYPE II MATERIAL SHALL BE CLEAN, HARD, CRUSHED OR NATURAL STONE WITH A GRADATION BY WEIGHT OF 100% PASSING A 1.5" SQUARE OPENING, NOT MORE THAN 25% PASSING A 3/4" OPENING, AND NOT MORE THAN 5% PASSING A 1/2" SQUARE OPENING.

\*\*TYPE III MATERIAL SHALL BE CLEAN, HARD, CRUSHED STONE FREE FROM COATINGS AND THOROUGHLY WASHED WITH A GRADATION BY WEIGHT OF 100% PASSING A 1" SQUARE OPENING, AND 0 TO 5% PASSING A 1/2" SQUARE OPENING.



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	06/23/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB

APPLICANT/OWNER:  
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452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
SCALE:	AS SHOWN	DWG. NAME:	C272901
DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC

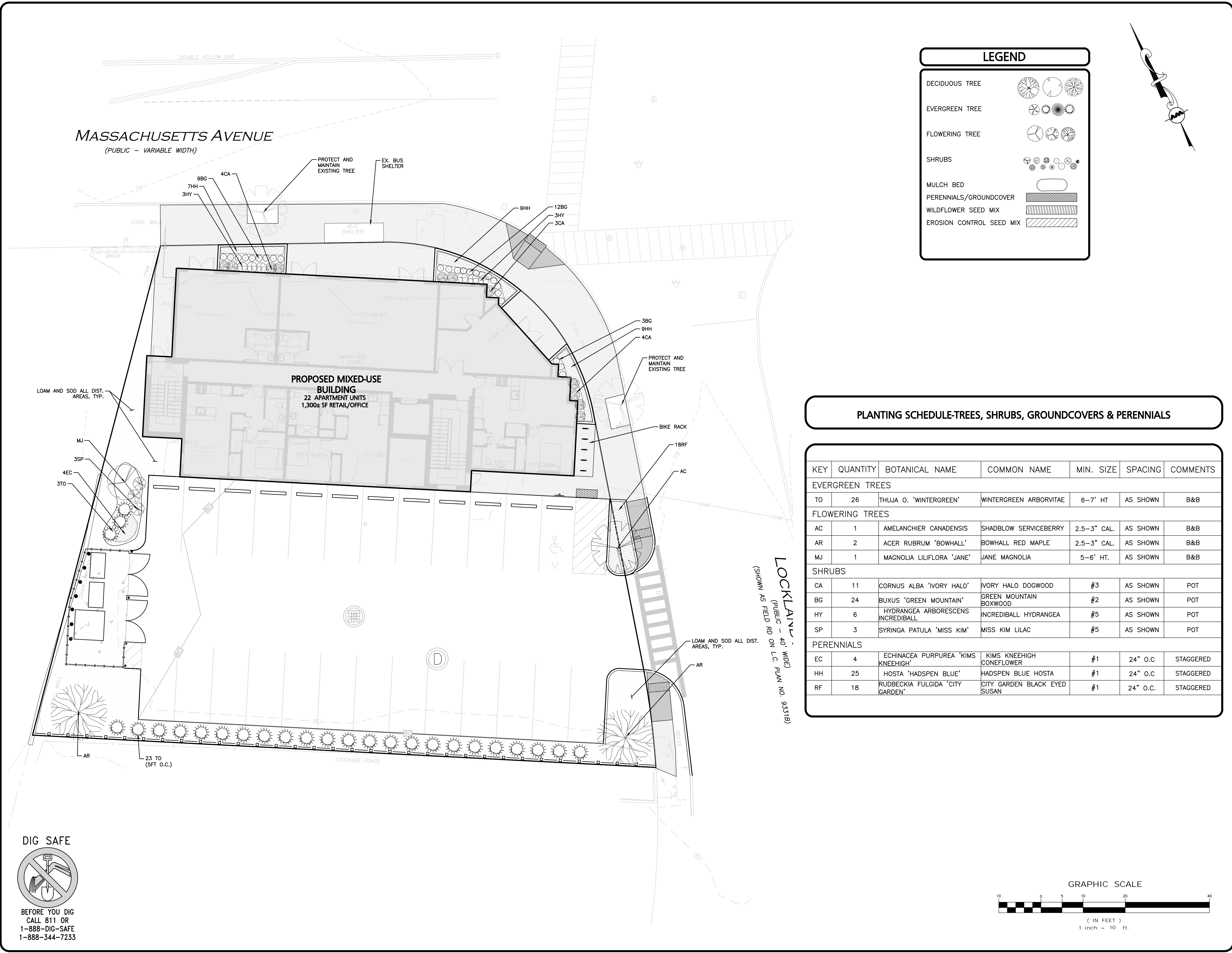
PREPARED BY:

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DRAWING TITLE:	SHEET No.
DETAILS	C-503





LEGEND

DECIDUOUS TREE

EVERGREEN TREE

FLOWERING TREE

SHRUBS

MULCH BED

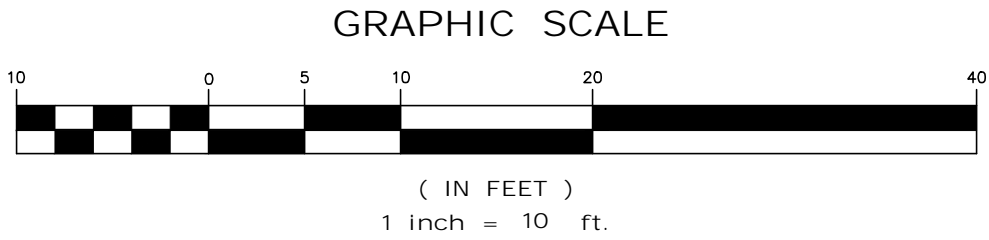
PERENNIALS/GROUNDCOVER

WILDFLOWER SEED MIX

EROSION CONTROL SEED MIX

PLANTING SCHEDULE-TREES, SHRUBS, GROUNDCOVERS & PERENNIALS

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENTS
EVERGREEN TREES						
TO	26	THUJA O. 'WINTERGREEN'	WINTERGREEN ARBORVITAE	6-7' HT	AS SHOWN	B&B
FLOWERING TREES						
AC	1	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	2.5-3" CAL.	AS SHOWN	B&B
AR	2	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	2.5-3" CAL.	AS SHOWN	B&B
MJ	1	MAGNOLIA LILIFLORA 'JANE'	JANE MAGNOLIA	5-6' HT.	AS SHOWN	B&B
SHRUBS						
CA	11	CORNUS ALBA 'IVORY HALO'	IVORY HALO DOGWOOD	#3	AS SHOWN	POT
BG	24	BUXUS 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	#2	AS SHOWN	POT
HY	6	HYDRANGEA ARBORESCENS 'INCREDIBALL'	INCREDIBALL HYDRANGEA	#5	AS SHOWN	POT
SP	3	SYRINGA PATULA 'MISS KIM'	MISS KIM LILAC	#5	AS SHOWN	POT
PERENNIALS						
EC	4	ECHINACEA PURPUREA 'KIMS KNEEHIGH'	KIMS KNEEHIGH CONEFLOWER	#1	24" O.C	STAGGERED
HH	25	HOSTA 'HADSPEN BLUE'	HADSPEN BLUE HOSTA	#1	24" O.C	STAGGERED
RF	18	RUDBECKIA FULGIDA 'CITY GARDEN'	CITY GARDEN BLACK EYED SUSAN	#1	24" O.C.	STAGGERED



REGISTERED LANDSCAPE ARCHITECT FOR ALLEN & MAJOR ASSOCIATES, INC.

2	06/23/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB
REV	DATE	DESCRIPTION

APPLICANT/OWNER:  
882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO. 2729-01 DATE: 04-10-20

SCALE: 1" = 10' DWG. NAME: C2729-01

DESIGNED BY: BCD CHECKED BY: BDJ/RC

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.

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DRAWING TITLE: LANDSCAPE PLAN SHEET No. L-101



LOAM AND SODDING NOTES

CONTRACTOR SHALL SOD AREAS NOTED ON THE PLANS.

SOD IS TO BE A BLEND OF FOUR TO FIVE CURRENT AND IMPROVED HYBRID BLUEGRASS AND FESCUE MIXES APPROPRIATE FOR BOTH SEMI-SHADED AND AREAS OF SUN.

HYBRIDS MAY INCLUDE: BLACKSTONE KENTUCKY BLUEGRASS, AWARD KENTUCKY BLUEGRASS, CHALLENGER KENTUCKY BLUEGRASS, BLACKBURG II KENTUCKY BLUEGRASS OR COMPARABLE AND EQUAL BLUEGRASS HYBRIDS.

1. SOD SHALL BE HIGH QUALITY, NURSERY GROWN ON CULTIVATED MINERAL AGRICULTURAL SOILS. SOD SHALL BE MOIST, AND MACHINE CUT AT A UNIFORM SOIL THICKNESS OF AT LEAST ¾" AT TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL INCLUDE TOP GROWTH AND THATCH. SOD SHALL BE FREE OF DISEASES, WEEDS, BARE SPOTS, OR INSECTS.

2. SODDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RE-SODDING OF BARE SPOTS. IF UNABLE TO SOD WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SODDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.

3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIC SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.

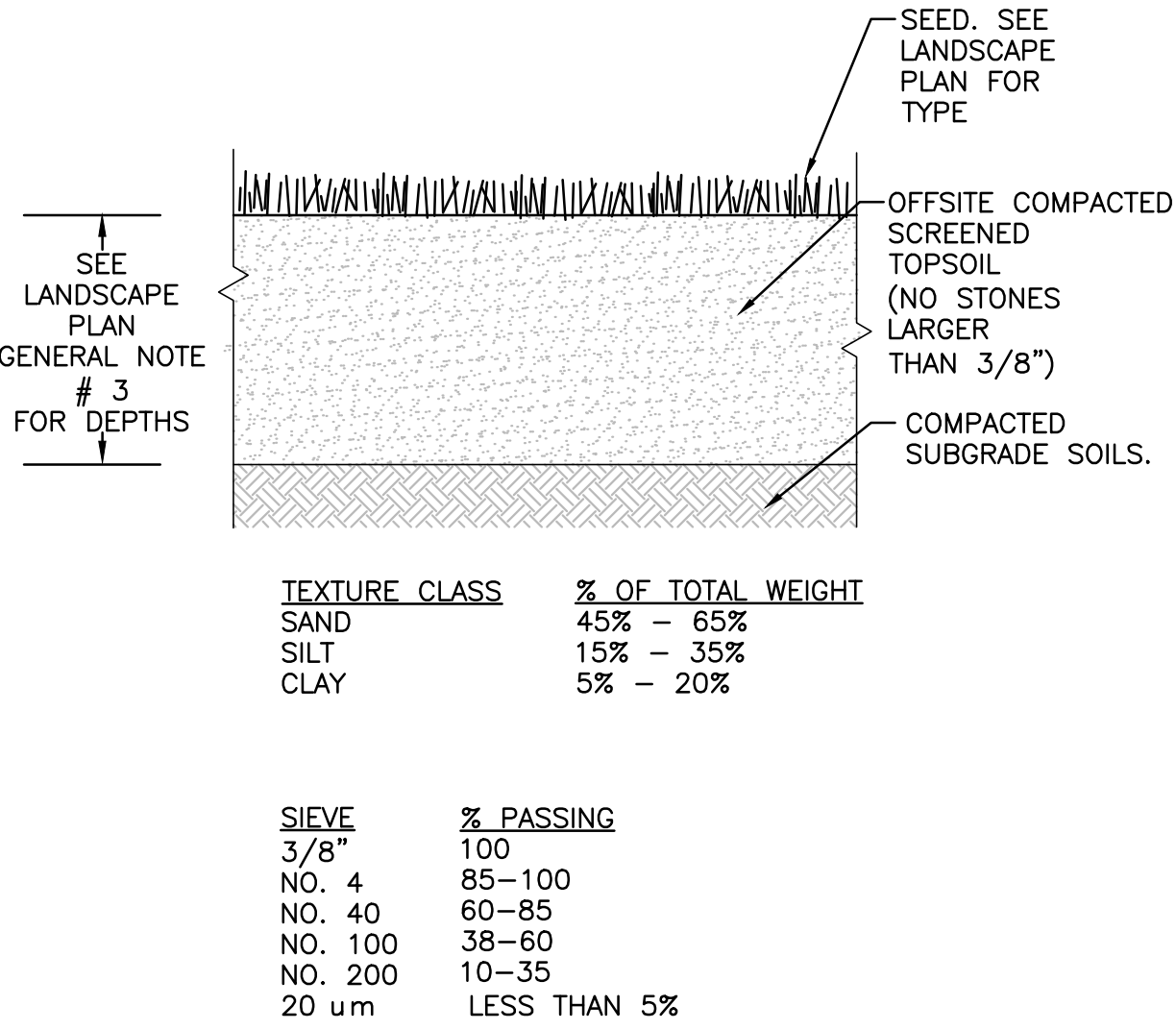
4. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RE-SODDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

LANDSCAPE NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF ARLINGTON, MA.
- PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF ANY CONFLICTS IN WRITING.
- NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.
- ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.
- ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
- ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.

LANDSCAPE NOTES CONT.

- ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED LAWNS WITH 3:1 OR GREATER SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.
- ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING.
- TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.
- ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH
- ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.
- ALL TREE STAKES SHALL BE STAINED DARK BROWN.
- CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.
- ALL PARKING ISLANDS PLANTED WITH SHRUBS SHALL HAVE 24" OF TOP SOIL. FINISH GRADE SHALL BE EQUAL TO THE TOP OF CURB.
- SOIL SAMPLES, TESTS, AND SHOP DRAWINGS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT OR THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
- AN MINIMUM 18" WIDE BARRIER OF 1" GRAY OR TAN PEASTONE SHALL BE INSTALLED IN ALL PLANT BEDS WHICH ABUT THE BUILDINGS. NO MULCH IS ALLOWED WITHIN 18" OF ALL BUILDINGS PER THE LATEST EXECUTIVE OFFICE OF PUBLIC SAFETY AND SECURITY DEPARTMENT OF FIRE SERVICES REGULATION (527 CMR 17.00). INSTALL 6" DEEP OF PEASTONE WITH MIRAFI WEED FABRIC BENEATH AND STEEL EDGING BETWEEN THE PEASTONE AND ADJACENT MULCH BED.
- ALL PROPOSED LANDSCAPE AREAS INCLUDING MOWED LAWNS, TREES, SHRUB BEDS, AND PERENNIALS SHALL BE PROVIDED WITH WATER EFFICIENT UNDERGROUND IRRIGATION. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT. IRRIGATION SYSTEM IS TO BE DESIGNED FOR EFFICIENT WATER USAGE INCLUDING: USE OF DRIP IRRIGATION FOR SHRUBS AND PERENNIALS, IRRIGATION SYSTEM WITH HEAD-TO-HEAD COVERAGE, A CENTRAL SHUT-OFF VALVE, AND A RAIN SENSOR TO SHUT OFF IRRIGATION DURING RAIN EVENTS.



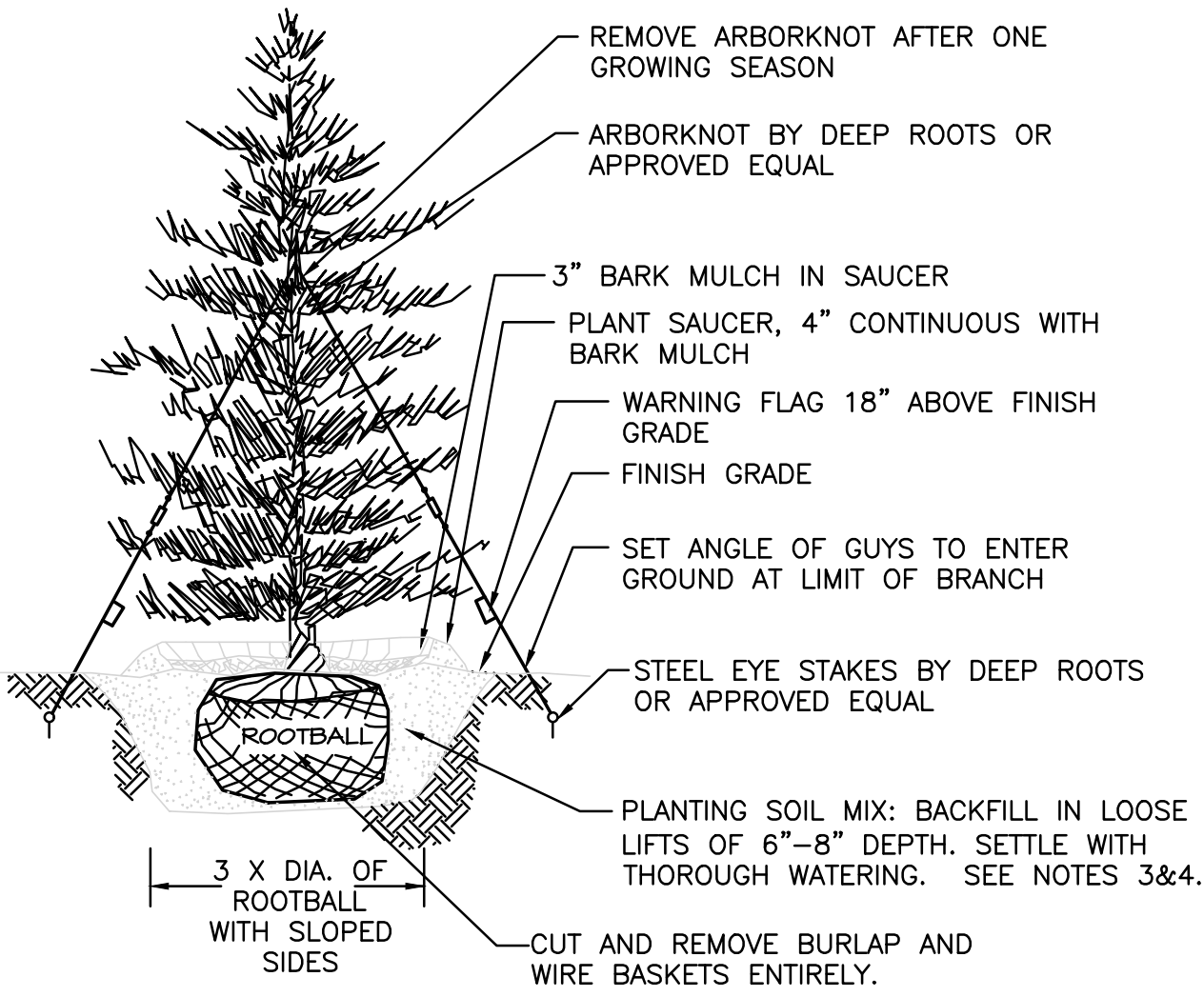
NOTES:

- TOP OF LOAM (TOPSOIL) IS FINISH GRADE.
- ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLOUDS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEIOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
- THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UMASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
- TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN BETWEEN 4% AND 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.

TOPSOIL FOR LAWN, TREES, SHRUBS, & PERENNIALS

NOT TO SCALE

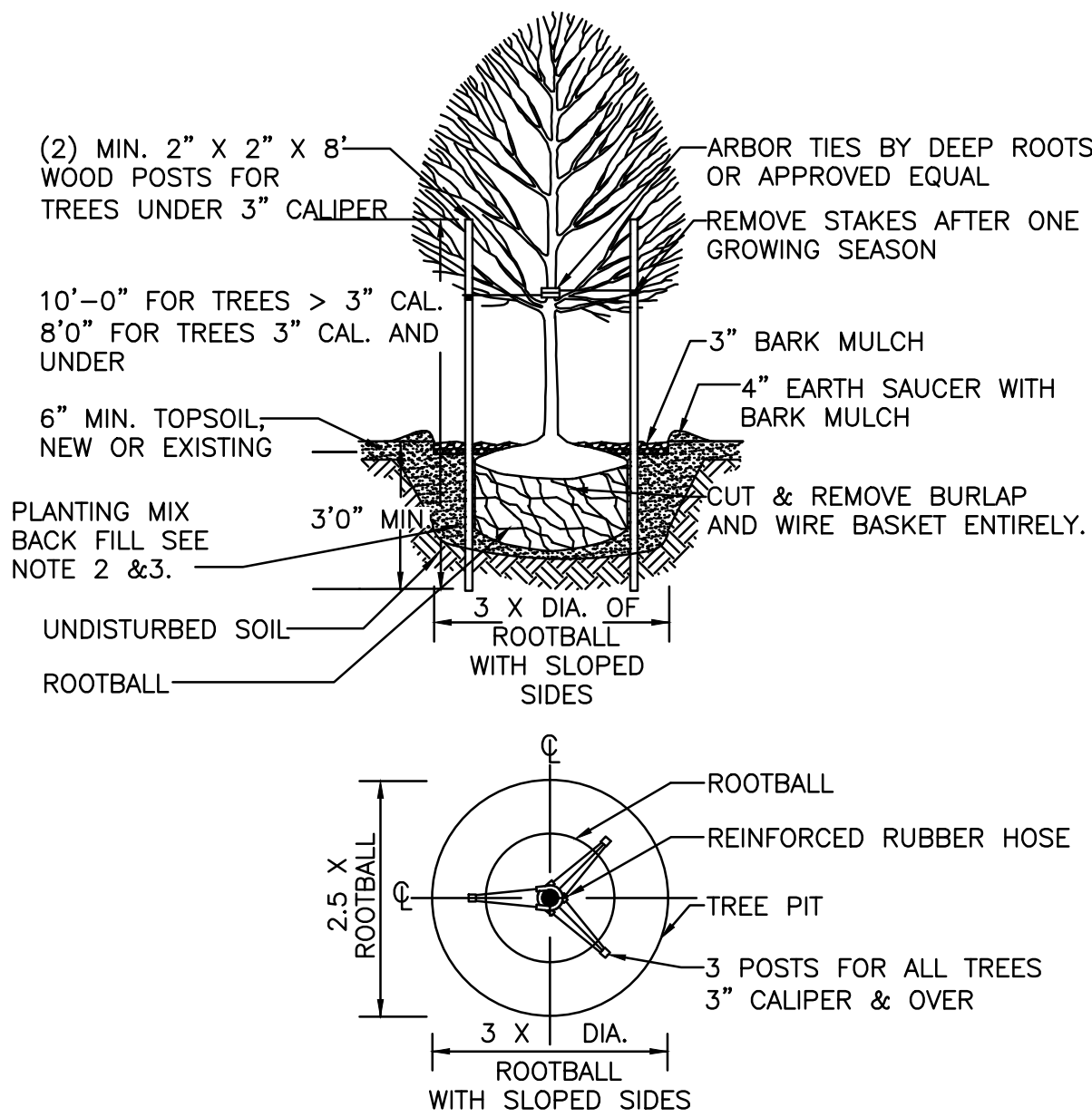
2



EVERGREEN TREE DETAIL

NOT TO SCALE

1



DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

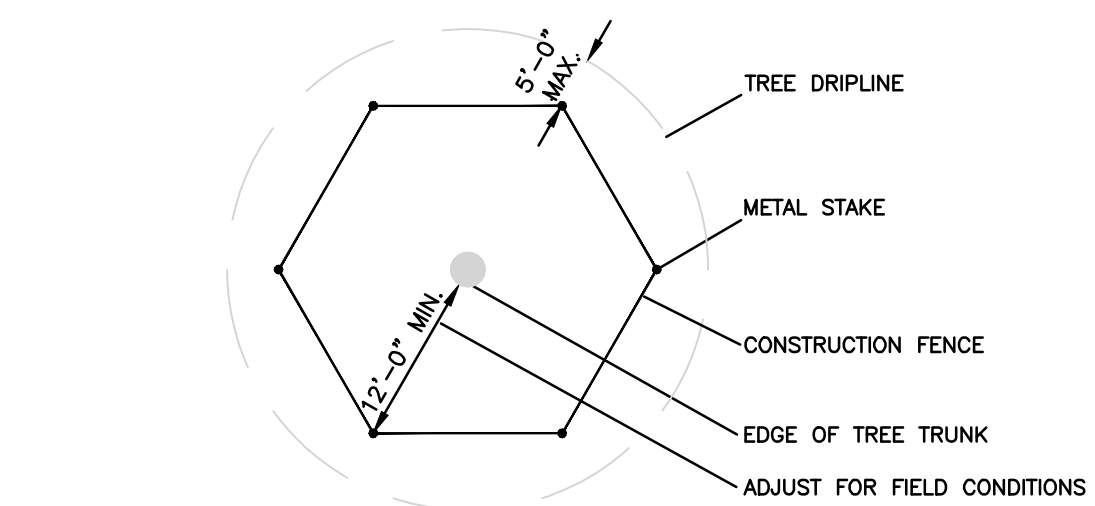
3

NOTES

- TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
- INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
- ATTACH GUYS AT 2/3 HEIGHT OF TREE.
- BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
- ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

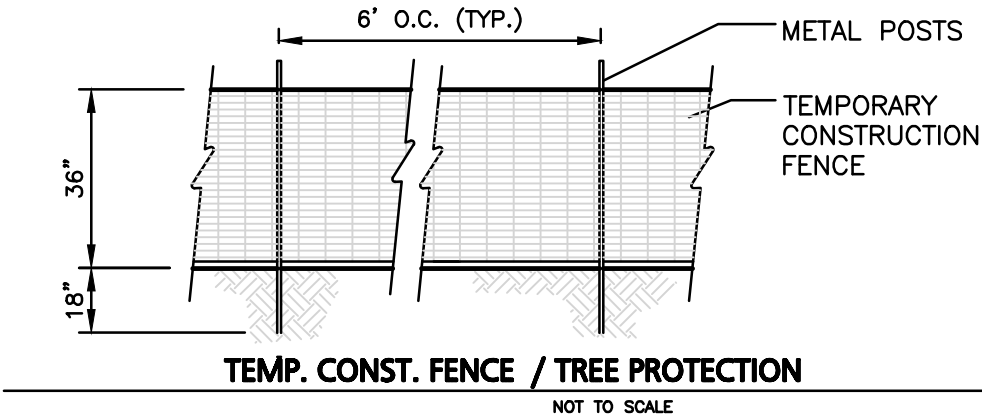
NOTES:

- ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
- BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
- ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.



NOTE:

- CONSTRUCTION FENCE TO BE "VISUAL BARRIER FENCE" AS MANUFACTURED BY EXXON CHEMICAL COMPANY ATLANTA, GA; "KONTROL SAFETY FENCE" AS MANUFACTURED BY MIRAFI, CHARLOTTE, N.C. OR APPROVED EQUAL.
- IF GROUPS OF TREES ARE TO BE PROTECTED, EXTEND FENCE AROUND PERIMETER TO CONFORM TO MINIMUM DIMENSIONS FOR TREE TRUNKS AND DRIPLINE.



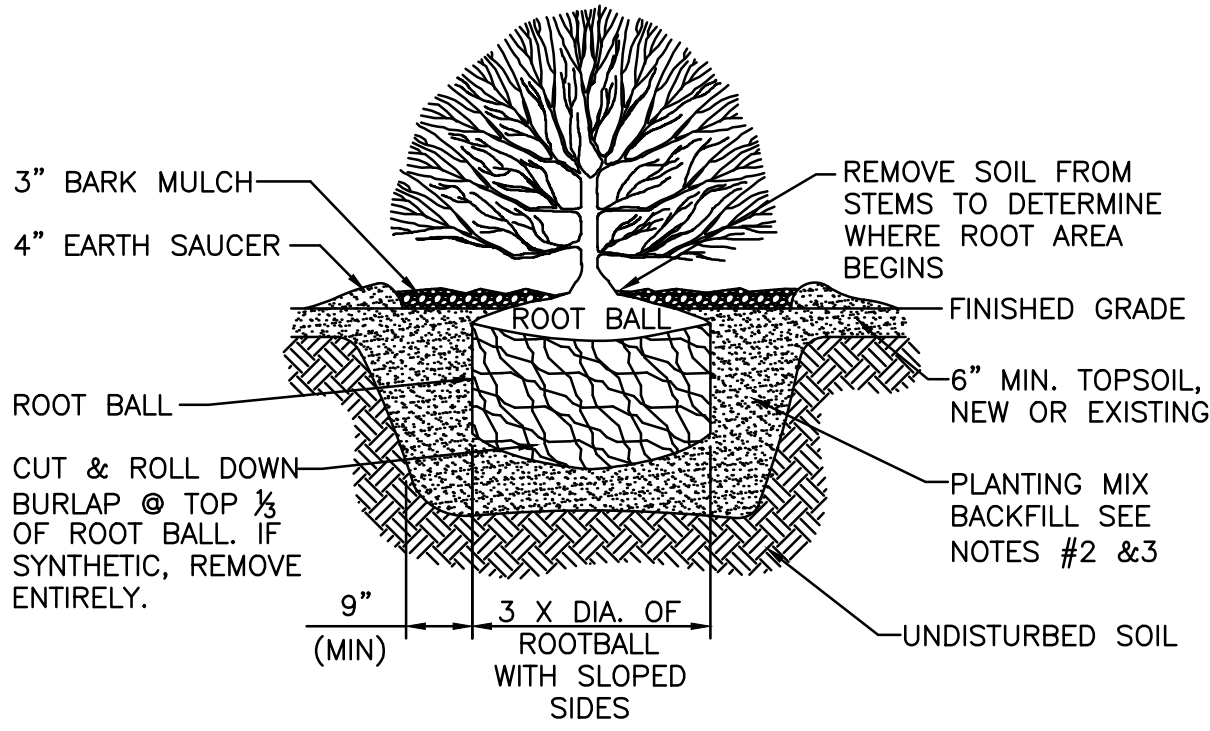
TEMP. CONST. FENCE / TREE PROTECTION

NOT TO SCALE

4

NOTES:

- ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1"-2" ABOVE FINISH GRADE.
- BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
- ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
- SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.



SHRUB PLANTING DETAIL

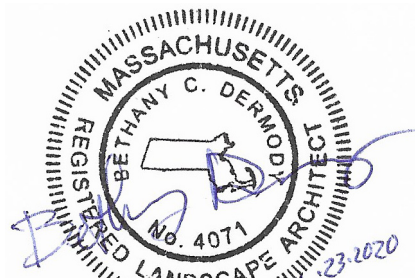
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5

DIG SAFE



BEFORE YOU DIG  
CALL 811 OR  
1-888-DIG-SAFE  
1-888-344-7233



REGISTERED LANDSCAPE ARCHITECT FOR  
ALLEN & MAJOR ASSOCIATES, INC.

2	06/23/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB
REV	DATE	DESCRIPTION

APPLICANT/OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
SCALE:	NTS	DWG. NAME:	C2729-01
DESIGNED BY:	BCD	CHECKED BY:	BDJ/RC

PREPARED BY:

**ALLEN & MAJOR ASSOCIATES, INC.**  
civil engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
100 COMMERCE WAY, SUITE 5  
WOBURN MA 01801  
TEL: (781) 935-6889  
FAX: (781) 935-2896

WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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DRAWING TITLE:	SHEET No.
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LANDSCAPE DETAILS

L-501

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ARLINGTON MIXED USE

882-892 MASS AVE  
ARLINGTON, MA



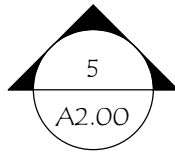
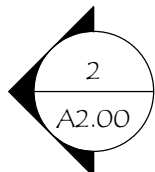
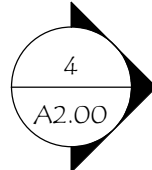
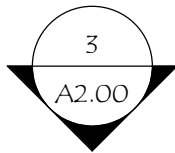
NOT FOR  
CONSTRUCTION

Title: OVERALL PLAN - BASEMENT	Scale:	Revisions:	Date
	Drawn By: Checked By: Project No.: Date:	# Description ppS/LS ALW 2020004 07/06/20	

A1.01



NOTE: SEE CIVIL FOR SITEWORK



1 1ST FLOOR  
1/4" = 1'-0"

ARLINGTON MIXED USE

882-892 MASS AVE  
ARLINGTON, MA

Revisions:	Date
#	Description

1/4" = 1'-0"	PPS/LS	ALW
Scale:	Drawn By:	Checked By:
Project No.:	2020004	07/06/20
Date:	6/25/2020 5:47:57 PM	

Title:  
OVERALL PLAN -  
FIRST FLOOR

A1.02

NOT FOR  
CONSTRUCTION





ARLINGTON MIXED USE

882-892 MASS AVE  
ARLINGTON, MA

Revisions:	Date
#	Description

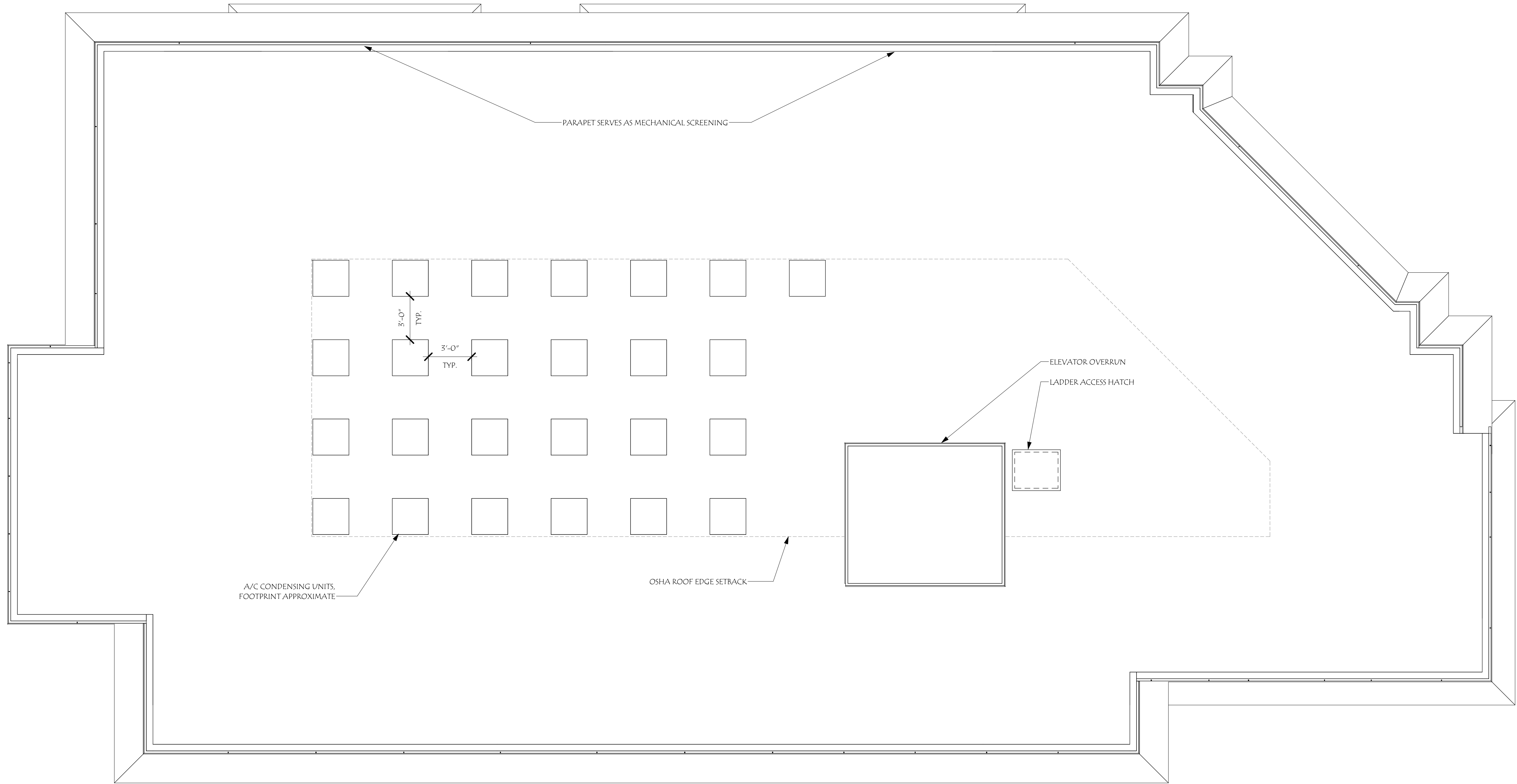
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Scale:	Drawn By:	Checked By:
Project No.:	20200004	07/06/20
Date:	6/25/2020 5:47:58 PM	

OVERALL PLAN -  
UPPER FLOORS

A1.03

NOT FOR  
CONSTRUCTION





ARLINGTON MIXED USE

882-892 MASS AVE  
ARLINGTON, MA

NOT FOR  
CONSTRUCTION



Revisions:		
#	Description	Date

1/4" = 1'-0"	PPS/LS	ALW
Scale:	Drawn By:	Checked By:

OVERALL PLAN - ROOF	
A1.04	





6 PERSPECTIVE



1 CORNER ELEVATION  
1/8" = 1'-0"



4 WEST ELEVATION  
1/8" = 1'-0"

- MATERIAL NOTES:
- ♦ PAINTED FIBER CEMENT PANEL, TYP. ALL LOCATIONS.
  - ♦ CORNICE/TRIM TO BE FIBER CEMENT OR AZEK WITH METAL FLASHING PAINTED TO MATCH.



5 SOUTH ELEVATION  
1/8" = 1'-0"



2 EAST ELEVATION  
1/8" = 1'-0"



3 NORTH ELEVATION  
1/8" = 1'-0"

Revisions:	Date
#	Description

1/8" = 1'-0"	PPS/LS	ALW	2020004	07/06/20
Scale:	Drawn By:	Checked By:	Project No.:	Date:

Title: BUILDING ELEVATIONS	A2.00
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NOTE: CONTEXT BUILDING HEIGHTS AND ELEVATIONS APPROXIMATED.



② LOCKELAND AVE ELEVATION  
1/16" = 1'-0"



① MASS AVE ELEVATION  
1/16" = 1'-0"

MARKET  
SQUARE

ARCHITECTS  
104 Congress St., STE 203  
Parsippany, NJ 08859  
PH: 609.501.0202

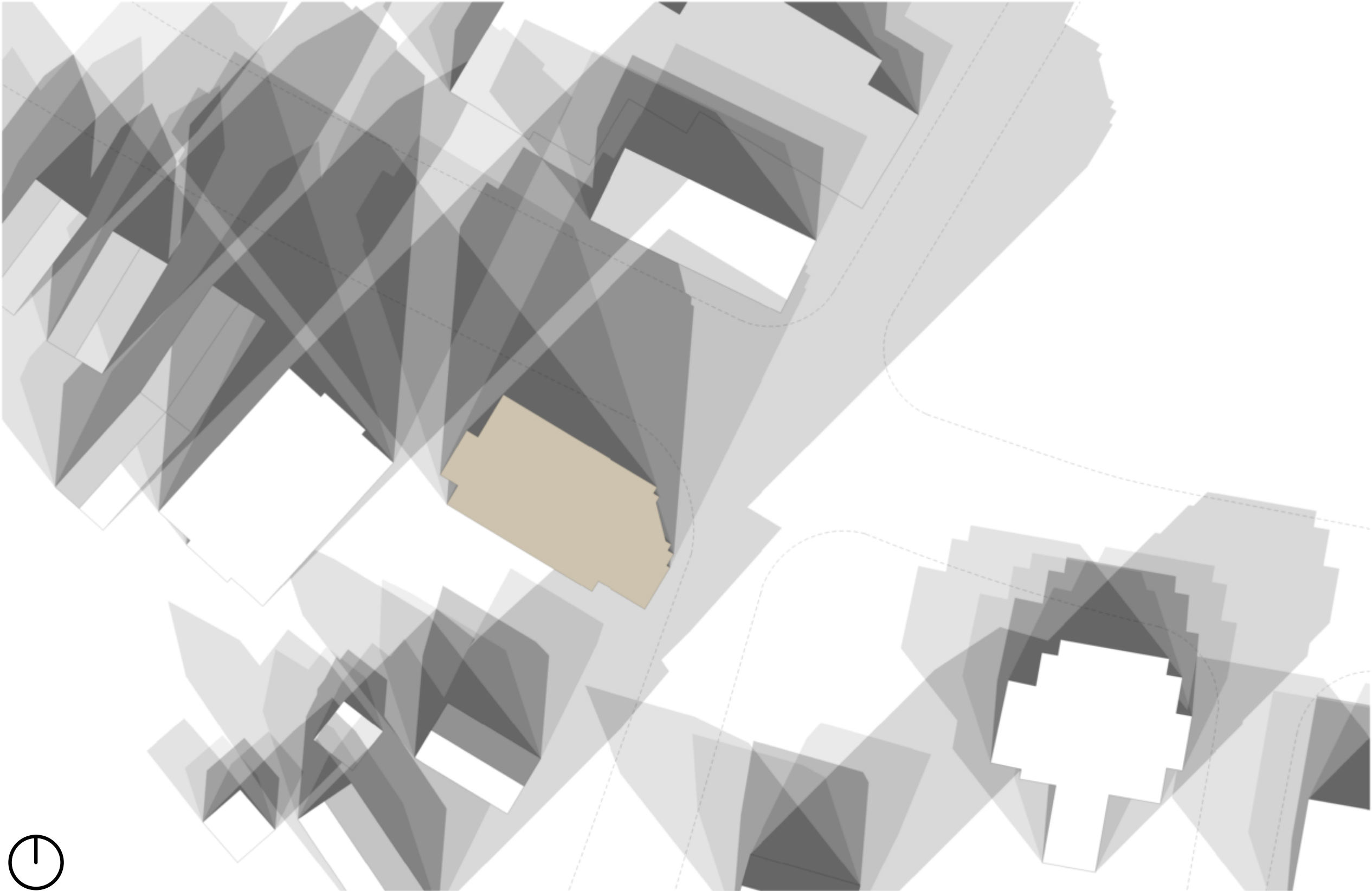
NOT FOR  
CONSTRUCTION

ARLINGTON MIXED USE  
  
882-892 MASS AVE  
ARLINGTON, MA

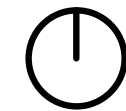
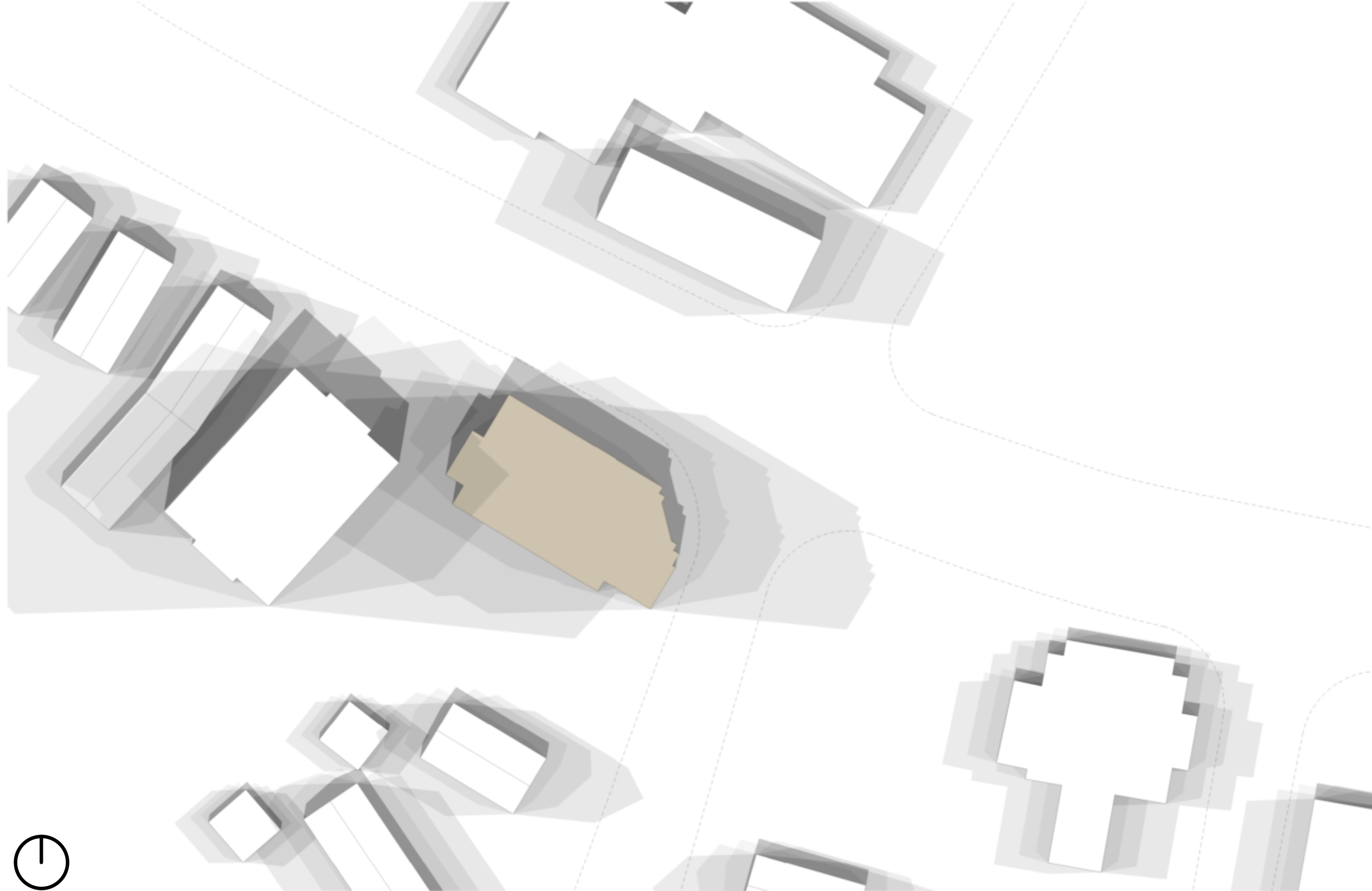
Revisions:	#	Description	Date
Scale:	1/16" = 1'-0"	PPS/LS	ALW
	Drawn By:	Checked By:	Project No.: 20200004
Title:	STREET ELEVATIONS		Date: 07/06/20
	A2.01		

© 2020 Market Square Architects 6/25/2020 5:47:56 PM

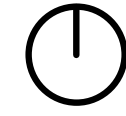
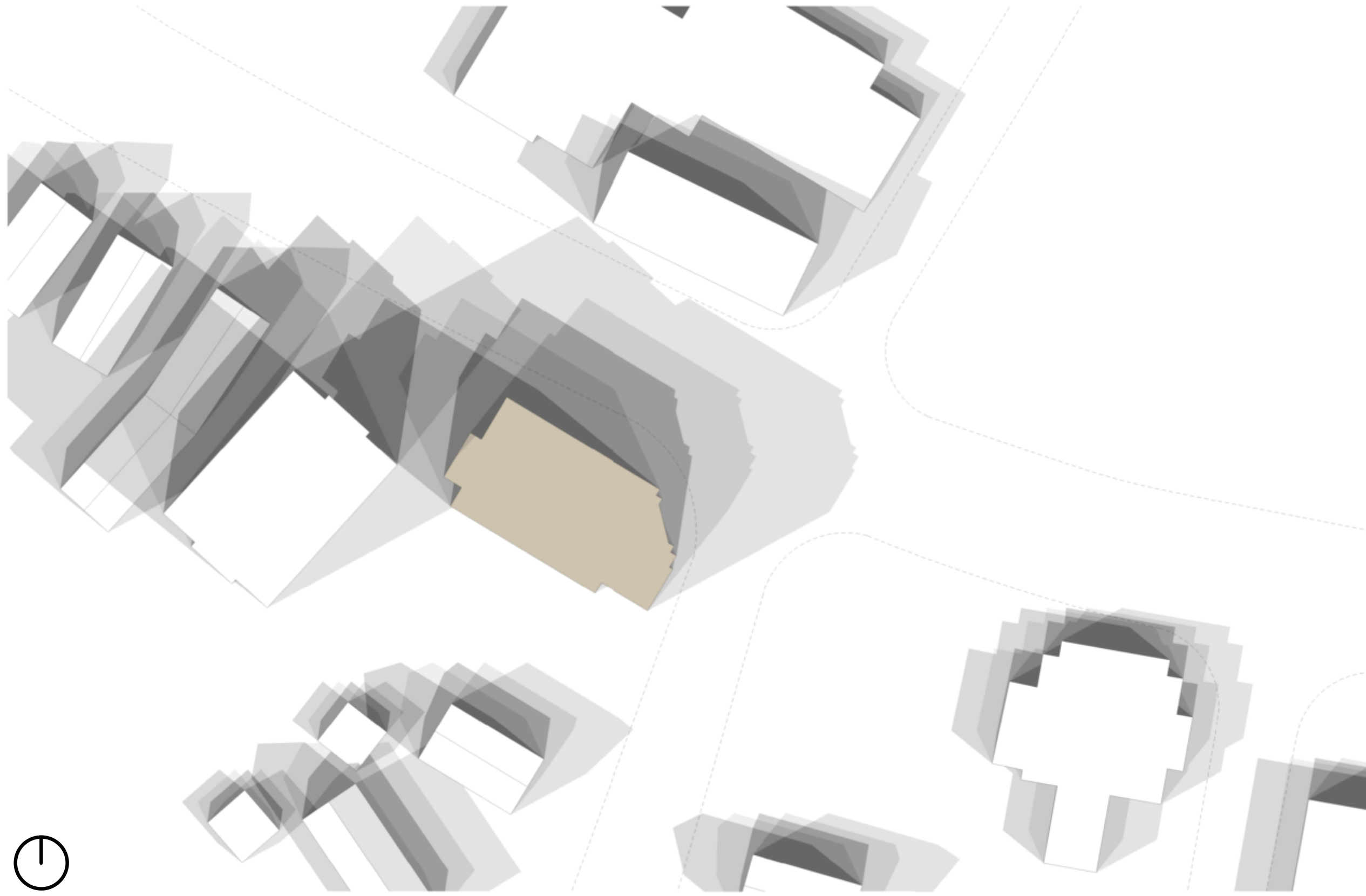




WINTER - 9:00AM TO 3:00PM



SUMMER - 7:30AM TO 4:30PM



SPRING/FALL - 9:00AM TO 3:00PM

ARLINGTON MIXED USE

882-892 MASS AVE  
ARLINGTON, MA

NOT FOR  
CONSTRUCTION

Revisions:			
#	Description		Date

Scale:	PPS/LS
Drawn By:	ALW
Checked By:	
Project No.:	20200004
Date:	07/06/20

Title:  
SOLAR STUDIES

A9.01





ARLINGTON MIXED USE

882-892 MASS AVE  
ARLINGTON, MA

NOT FOR  
CONSTRUCTION



Revisions:			
#	Description		Date

Scale:	PPS/LS
Drawn By:	ALW
Checked By:	
Project No.:	20200004
Date:	07/06/20

Title:	CORNER RENDER
A9.02	





NOT FOR  
CONSTRUCTION

ARLINGTON MIXED USE

882-892 MASS AVE  
ARLINGTON, MA

Revisions:		
#	Description	Date

Scale:	PPS/LS
Drawn By:	ALW
Checked By:	
Project No.:	20200004
Date:	07/06/20

Title: LOCKELAND RENDER	
	A9.03



PETITION FOR SPECIAL PERMIT UNDER ENVIRONMENTAL DESIGN REVIEW

TABLE OF CONTENT

RE: 882-892 Massachusetts Avenue

1. Petition for Special Permit under Environmental Design Review
2. Supplemental Information with respect to Petition under Environmental Design Review
3. Required Submittals Checklist
4. Dimensional and Parking Information
5. Plans and rendering
6. Correspondence from Kristen Welch, Greater Metropolitan Real Estate
7. LEEDS
8. Storm water management plan





TOWN OF ARLINGTON  
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design  
Review Procedures (Section 3.4 of the Zoning Bylaw)

- Docket No. \_\_\_\_\_
1. Property Address 882-892 Massachusetts Ave  
Name of Record Owner(s) 882-892 Massachusetts Ave, LLC Phone 781-654-6306  
Address of Owner 452 Massachusetts Ave, Ste 203, Arlington, MA 02474  
Street City, State, Zip
  2. Name of Applicant(s) (if different than above) Same as above  
Address \_\_\_\_\_ Phone \_\_\_\_\_  
Status Relative to Property (occupant, purchaser, etc.) \_\_\_\_\_
  3. Location of Property Map 126, Block 1, Lots 6 and 7  
Assessor's Block Plan, Block, Lot No.
  4. Deed recorded in the Registry of deeds, Book 1523, Page 101;  
-or- registered in Land Registration Office, Cert. No. \_\_\_\_\_, in Book \_\_\_\_\_, Page \_\_\_\_\_
  5. Present Use of Property (include # of dwelling units, if any) Retail, Service, Restaurant
  6. Proposed Use of Property (include # of dwelling units, if any) Mixed-Use  
22 Apartment Units, 700 SF Retail
  7. Permit applied for in accordance with the following Zoning Bylaw section(s) 3.4 Environmental Design Review  
5.26 Open Space  
5.53 Mixed-Use  
section(s) title(s)
  8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.  
See Attached

(In the statement below, strike out the words that do not apply)

The applicant states that 882-892 Massachusetts Ave, LLC is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 882-892 Massachusetts Ave which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Signature of Applicant(s)

1171 Mass Ave., Arlington, MA 02476

781-646-4911

Address

Phone



TOWN OF ARLINGTON

REDEVELOPMENT BOARD

Petition for Special Permit under Environmental Design Review (see Section 3.4. of the Arlington Zoning Bylaw for Applicability)

1. Preservation of Landscape.

Landscaping has been provided on the submitted plans and one parking space has been eliminated in order to add green space to the site and in addition tree plantings are proposed along the Lockland Avenue side of the property which abuts the residential neighborhood.

2. Relation of Buildings to Environment.

The existing site contains a number of small retail stores with the height of the existing building comprising the stores being one story. Petitioner proposes a four story residential commercial mixed use building at the site and suggests to the Members of the Arlington Redevelopment Board that the proposed building will relate harmoniously to the terrain and to the use, scale and architecture of existing buildings in the vicinity of the property. The abutting building on the westerly side of the site consists of a six story apartment building and the proposed building will not adversely impact that abutting apartment building but essentially will be compatible with the physical characteristics of that building. The building fronts on Massachusetts Avenue and the property located along the easterly side of the property across Lockland Avenue consists of a bank with a large parking lot and a drive up teller operation.

The building across Massachusetts Avenue consists of a mixed use building recently approved by the Arlington Redevelopment Board consisting of three retail units on the first level and 2, two bedroom units on the second level and 2, two bedrooms units on the third level with parking located to the rear of that building.

The building which is the subject of this Petition has been designed having in mind that its physical characteristics should not have an adverse massing effect on the residential properties to the rear of the building and also not create a



shadow impact with respect to the residential properties.

### 3. Open Space.

The landscaped open space at the property would improve with respect to the construction with landscaped square feet being increased from 0 square feet to 1,470 square feet, i.e. 10.2%. The useable open space would be 1,707 square feet, i.e. 11.9% and would require a Special Permit.

### 4. Circulation.

The circulation with respect to vehicular, pedestrian and bicycle circulation, including entrances and exits are shown on Petitioner's plans and provide for twenty-five (25) parking spaces, outdoor bicycle racks, an indoor short-term bicycle room and a long-term bicycle room which would be accessed by an elevator down to the basement level. All vehicular traffic will enter and exit on the Lockland Avenue side of the property and relevant signage will direct traffic in and out of the parking area.

The total parking spaces at the property will in part consist of a long-term storage bicycle room in the basement which will have the capacity to store twenty-four bicycles with the tenants taking the elevator down one story to that storage room and tenants will also have the option to use other storage areas which are rather of a large capacity in the basement for storage of their bicycles as well.

On the first floor of the building there will be a combination mailroom with "hanging short term" bicycle storage for nine (9) bicycles and the entrance to that room would occur as one rounds Massachusetts Avenue onto Lockland Avenue onto a flat surface with no stairs of any kind being utilized with the result that tenants will have direct access to that short-term bicycle room. There will also be two (2) outdoor short-term bicycle storage racks which will be able to hold another eight to ten bicycles.

The total capacity for bicycle store at the property will be at least forty (40) bicycles.



## 5. Surface Water Drainage.

The Petitioner has engaged the services of Allen & Major Associates and that firm has conducted a storm water management study and has drafted a mixed-use redevelopment drainage summary letter dated February 26, 2020 which is addressed to Jennifer Raitt, Director of Planning and Community Development describing the existing conditions at the site and proposed conditions at the site.

The report in part provides that the Petitioner proposes to demolish the existing structure and construct a four story 4,693 square foot mixed use building with a combination of residential and retail uses.

There will be twenty-two (22) residential apartments and a 700 square foot retail component and the parking area would be reconstructed within the constraints of the existing pavement area.

The storm water management system would be improved with the installation of a new catch basin with a sump and hood at the outlet pipe to provide storm water treatment. The quantity of storm water runoff would be reduced with the installation of landscaped areas on site as shown on Petitioner's plans.

The proposed work would result in approximately 1,440 square feet of impervious material being replaced with landscaped areas.

Runoff flows were estimated for both pre and post development conditions and the chart in the study points No. 1 and No. 2 contained on the second page of the report demonstrate that flows will enter the on-site catch basin and discharge to the municipal drainage system. In addition the storm water flows that flow onto Massachusetts Avenue will be collected within the street catch basin.

Both study points show that the project will cause a reduction in the peak rate of runoff and volume of storm water leaving the site at both study points No. 1 and No. 2.



In summary, the report indicates that the proposed development will have a positive impact on the sewer water management system by reducing the rate and volume of storm water runoff from the site.

Aaron Mackey, the Representative of Allen & Major Associates has spoken with the Town Engineer with respect to the proposed construction and the Town Engineer has indicated his approval of the storm water drain management system proposed by Petitioner.

#### 6. Utility Service.

All utility service will be located underground.

#### 7. Advertising Features.

There are currently no plans for advertising although advertising signs may be required once a tenant is signed up for the commercial space. It would be the Petitioner's expectation that the signage required could be handled administratively with the Planning Department but if that is not the case then of course a Special Permit would be required.

The owner has indicated that there is a possibility of having an office tenant occupy all of the 700 square feet of commercial base.

#### 8. Special Features.

All equipment servicing the building will be located on the roof such as heating, air conditioning, etc. and will be set back in such a fashion that most of it will be buffered from the view of individuals at ground level by the building parapet. The dumpsters and the totes are located in the back of the property as shown on Petitioner's plans and are sufficient for the needs of both the residential tenants and any future commercial tenants as well.



9. Safety.

The access to and from the parking area at the building is sufficient for fire apparatus to access the property from the parking lot as well as any emergency personnel and equipment.

10. Heritage.

The property is not on the Arlington Historical list and is not in a historical district.

11. Microclimate.

The owner does not contemplate that there will be any installation of machinery which emits heats, vapor or fumes from the site in connection with the proposed construction.

12. Sustainable Building and Site Design.

Petitioner has submitted a LEED checklist prepared by Market Square Architects, LLC entitled: LEED v4 for Building Design and Construction: Homes and Multifamily Lowrise - Project Name: 882-892 Massachusetts Ave, Arlington, MA 02476 – dated March 26, 2020.

The substance of the checklist shows the type of building materials to be used at the site and will demonstrate how the LEED performance objectives will be incorporated into the project.

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw):

1. The use requested is listed as a special permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

See Section 3.4 of the Zoning Bylaw and Section 5.5.3 of the Zoning Bylaw which allows an apartment building in a B2 zone.



2. The requested use is essential or desirable to the public convenience or welfare.

**It has become more and more apparent over the last year or two that there is dire need for additional residential living space, not only in the Town but in the State as well. The Master Plan for the Town encourages owners and developers to create additional living space in the Town, therefore the creation of twenty-two (22) additional residential units would be essential or desirable to the public convenience or welfare. There will be three (3) affordable housing units located in the building.**

3. The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

**Proper and adequate steps have been taken to design the parking and traffic circulation at the site appropriately so that there will not be impairment of pedestrian safety.**

4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.

**The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.**

5. Any special regulations for the use as may be provided in this Bylaw are fulfilled.

**Not applicable.**

6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals or welfare.



**The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals or welfare of inhabitants of the Town or the neighborhood in which the property is located because the construction will occur in a mixed commercial and residential area fronting on Massachusetts Avenue which is mainly commercial in the neighborhood of the property and the proposed construction will not adversely impact neighboring properties whether commercial or residential.**

- 7. The requested use will not, by its addition to a neighborhood, cause and excess of the particular use that could be detrimental to the character of said neighborhood.**

**The proposed construction will not cause an excess of that use in the neighborhood of the property, particularly so in light of the fact that there is a need for additional residential living space and the creation of additional living space is encouraged by the Town Master Plan and the Amended Zoning Bylaw.**



**SUPPLEMENT INFORMATION WITH RESPECT TO PETITION UNDER  
ENVIROMENTAL DESIGN REVIEW  
SECTION 3.4 of the Arlington Zoning Bylaw**

The 822-892 Massachusetts Avenue real estate contains a lost size of 14,381 square feet and is identified on the Town's Tax Map 126 Block 1 as Lots 6 and 7 with Lot 6 covered by an existing one story brick building containing approximately 4,780 square feet consisting of four separate retail stores and Lot 7 consisting of a paved parking area comprising the balance of the property of 9,595 square feet.

The property is located in a B2 Zone as defined within the Arlington Zoning Bylaw.

Petitioner proposes to construct a twenty-two (22) unit mixed use development at the property after demolishing the existing building.

The Petition for Zoning Relief is filed under Section 3.4., i.e. Environmental Design Review as well as the mixed use section of the bylaw defined in the Table of Dimensional and Density Regulations D District Lot Regulations, Sections 526 through 530.

Petitioner proposes in addition to the twenty-two (22) one bedroom residential units to have an office use within the building containing approximately 700 square feet.

The building would contain four stories and there would be twenty-five (25) parking spots within the paved parking portion of the property.

Access to the parking area would be through the curb cut which currently exists on the Lockland Avenue easterly side of the property onto Lockland Avenue.

There would be clearly marked signs indicating the entrance and exist points to and from the parking lot and the parking spots would be clearly marked and lined and would also comply with the parking regulations contained within the Zoning Bylaw with respect to length and width.



The building itself would contain three (3) affordable housing units and there would be ample bicycle parking provided for both with respect to outside bicycle racks, an indoor short term bicycle room and an indoor long term bicycle room. In addition residents would have ample room in their storage units to store bicycles if they so desired.

The proposed bicycle rooms and bicycle parking are depicted on the plans submitted with the Petitioner's Application.

The landscaped space at the property would improve with respect to the construction with the landscaped square feet being increased from 0 square feet to 1,470 square feet, i.e. 10.2%. The useable open space would be 1,707 square feet, i.e. 11.9% and would require a Special Permit.

The front yard setback of the property is currently 0 feet and would be increased 2.8 feet while the zoning requirement in a mixed use development would be 0 feet.

The right side yard setback which is currently 53.6 feet would be increased to 65.3 feet and the left side yard setback would be increased from 1.3 feet to 1.9 feet.

The height of the building would increase from one story to four stories or from 13.5 feet to 39 feet while the zoning bylaw allows a 50 foot height.

The floor area ratio which is presently 0.35 would increase to 1.25 while the maximum required by the zoning bylaw is 1.50.

The abutting property on the westerly side of the building is a six floor multi-unit apartment building and the property located on the easterly side of Lockland Avenue consists of a large parking area and a bank while the abutter properties to the rear consist of residential properties.

Directly across the street is a three level building recently approved by the Arlington Redevelopment Board for three retail stores on the first level, 2 two-bedroom residential units on the second floor and 2 additional two-bedroom units on the second level.



Diagonally across Massachusetts Avenue there is a large Stop & Shop store complex with an accompanying parking area and a liquor store located between the Stop & Shop store and the building mentioned previously recently approved by the Arlington Redevelopment Board.

The Arlington High School is located diagonally across from the property in a north-easterly direction.

The property is located in a long existing mixed use area with a combination of residential and commercial uses with the uses mainly located on Massachusetts Avenue being commercial uses.

Petitioner's plans have been designed to comport with the provisions of the zoning bylaw at Section 5.5.1, further subsection (b) which defines a B2 Zoning District as follows:

B2: Neighborhood Business District. The Neighborhood Business District is intended for small retail and service establishments serving the needs of adjacent neighborhoods and oriented to pedestrian traffic, and mixed-use buildings. Locations are almost all along Massachusetts Avenue or Broadway. The Town discourages uses that would detract from the district's small-scale business character or otherwise interfere with the intent of this Bylaw.

The property has been the subject of prior zoning cases in 1988 and 1991 before the Zoning Board of Appeals for special permits and not for variances and those zoning cases would now be superseded by any action of the Arlington Redevelopment Board with respect to its Special Permit authority under Environmental Design Review and with respect to the Special Permit relief requested by Petitioner.

The owners of the property have indicated their preference for twenty-two (22) one bedroom residential units with respect to the development in part based upon a report they have obtained from Greater Metropolitan Real Estate at 872 Main Street, Winchester, Massachusetts, Kristen Welch, the substance of which indicates that following a study of the real estate market in Arlington and particularly in the neighborhood of the property which is the subject of the



Petition that studio and one bedroom units are always the most sought after and have always been rented fairly quickly.

Two bedroom units will rent but will take longer according to Ms. Welch. She indicates that on average two professional roommates are the most likely clients for a two or even a three bedroom unit and they are willing to pay the higher rental amount attributable to the multi bedroom units.

She indicates that the high rents for such units do not generally attract families.

She further indicates that with proximity to the bike path and bus line most of her clients are young professionals who use the proximity to the bike path and use the adjacent bus line for travelling to and from work in Cambridge, Boston or other nearby cities and towns.

She indicates that she does represent families but the families she represents are mainly looking for a multi-family or single family home with a yard.





Town of Arlington Redevelopment Board  
Application for Special Permit in accordance with  
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested.  
Review the ARB's Rules and Regulations, which can be found at [arlingtonma.gov/arb](http://arlingtonma.gov/arb), for the full  
list of required submittals.

- ☒ Dimensional and Parking Information Form (see attached)
- ☒ Site plan of proposal
- ☐ Model, if required
- ☒ Drawing of existing conditions
- ☒ Drawing of proposed structure
- ☒ Proposed landscaping. May be incorporated into site plan
- ☒ Photographs
- ☒ Impact statement
- ☐ Application and plans for sign permits
- ☒ Stormwater management plan (for stormwater management during construction for projects  
with new construction)

FOR OFFICE USE ONLY

- \_\_\_\_\_ Special Permit Granted Date: \_\_\_\_\_
- \_\_\_\_\_ Received evidence of filing with Registry of Deeds Date: \_\_\_\_\_
- \_\_\_\_\_ Notified Building Inspector of Special Permit filing Date: \_\_\_\_\_



# TOWN OF ARLINGTON

Dimensional and Parking Information  
for Application to  
The Arlington Redevelopment Board

Docket No. \_\_\_\_\_

Property Location 882-892 Massachusetts Ave

Zoning District B2

Owner: 882-892 Massachusetts Ave, LLC

Address: 452 Massachusetts Ave, Arlington, MA

Present Use/Occupancy: No. of Dwelling Units:

Retail, Service, Restaurant

Uses and their gross square feet:

1-Story 5,016 SF

Proposed Use/Occupancy: No. of Dwelling Units:

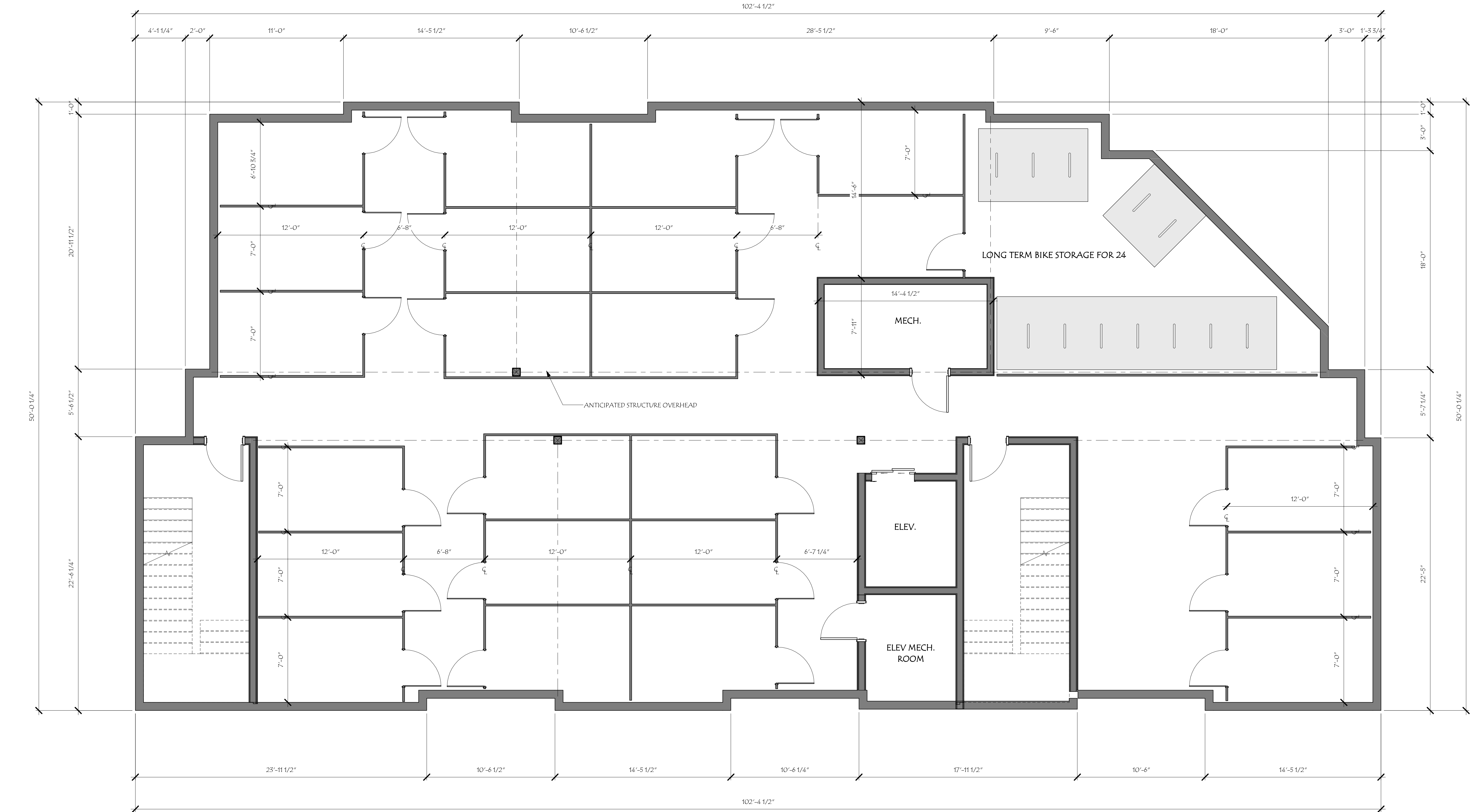
Mixed-Use, 22 Apartment Units & 700 SF Retail

Uses and their gross square feet:

4-Story Mixed-Use 18,009 GSF

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	14,381 SF	14,381 SF	min. ----
Frontage	208 FT	208 FT	min. ----
Floor Area Ratio	0.35	1.25	max. 1.5
Lot Coverage (%), where applicable	34.9%	32.6%	max. ----
Lot Area per Dwelling Unit (square feet)	N/A	654 SF	min. ----
Front Yard Depth (feet)	0 FT		min. ----
Side Yard Width (feet) right side	53.6 FT	65.3 FT	min. ----
left side	1.3 FT	1.9 FT	min. ----
Rear Yard Depth (feet)	N/A	N/A	min. N/A
Height	----	-----	min. -----
Stories	1-STORY	4-STORY	stories 4-STORY
Feet	13.5 FT	39 FT	feet 50 FT
Open Space (% of G.F.A.)	-----	-----	min. -----
Landscaped (square feet)	0 SF	1,470 SF (10.2%)	(s.f.) 1,438 SF (10%)
Usable (square feet)		1,707 SF (11.9%)	(s.f.) 2,876 SF (20%)
Parking Spaces (No.)	UNKNOWN	25 SPACES	min. 25 SPACES
Parking Area Setbacks (feet), where applicable	0 FT	1 FT	min. 5 FT
Loading Spaces (No.)	N/A	N/A	min. N/A
Type of Construction	NEW CONSTRUCTION		
Distance to Nearest Building	12.1 FT	16.3 FT	min.





1 BASEMENT  
1/4" = 1'-0"

NOT FOR  
CONSTRUCTION

ARLINGTON MIXED USE

892 MASS AVE  
ARLINGTON, MA

Revisions:	Date
#	Description

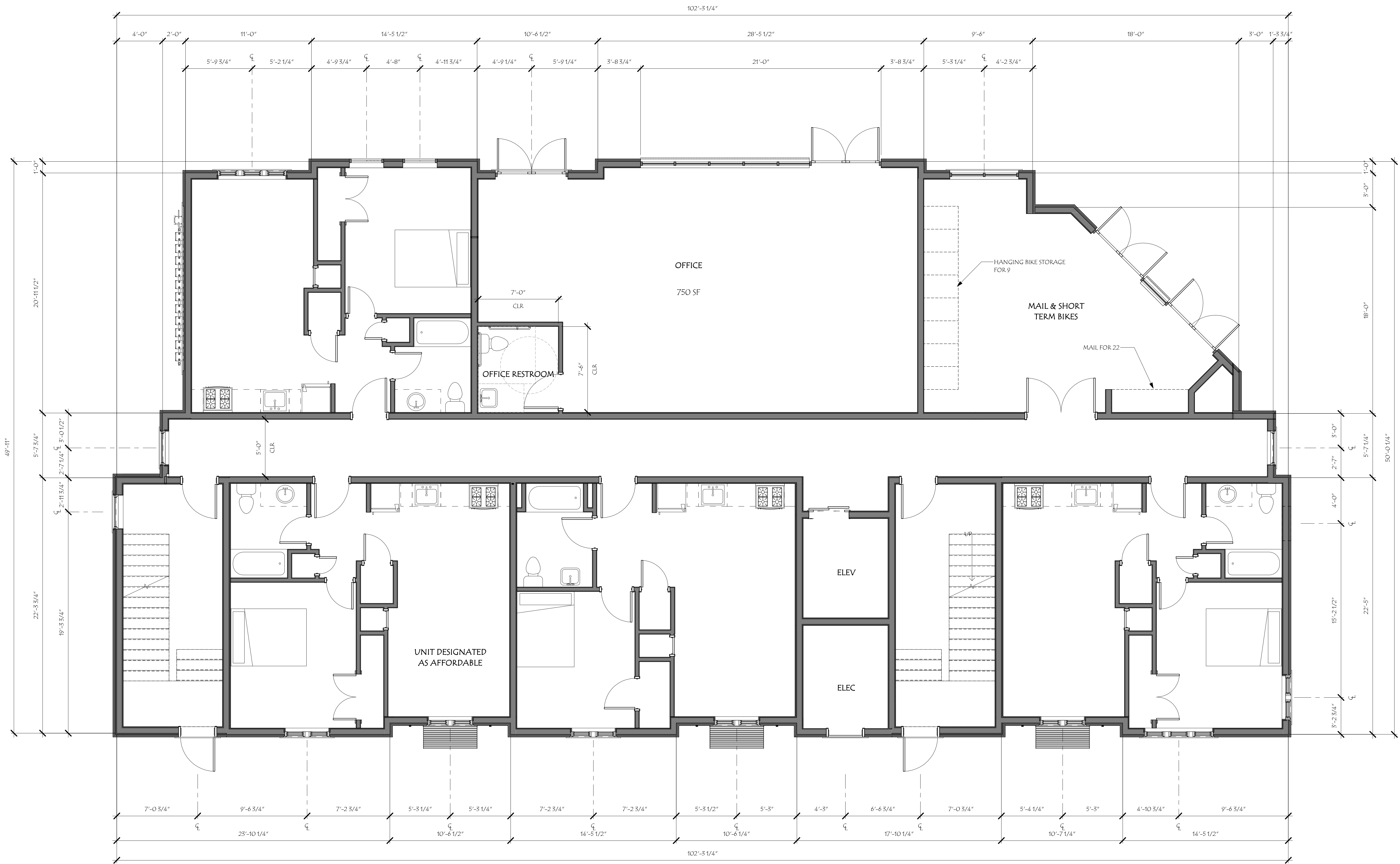
1/4" = 1'-0"	PPS	ALW	20200004	04/05/20
Scale:	Drawn By:	Checked By:	Project No.:	Date:

Title:  
BASEMENT FLOOR  
PLAN

A1.00



NOTE:  
SEE CIVIL FOR SITE INFORMATION.



1ST FLOOR  
1/4" = 1'-0"

NOT FOR  
CONSTRUCTION

ARLINGTON MIXED USE

892 MASS AVE  
ARLINGTON, MA

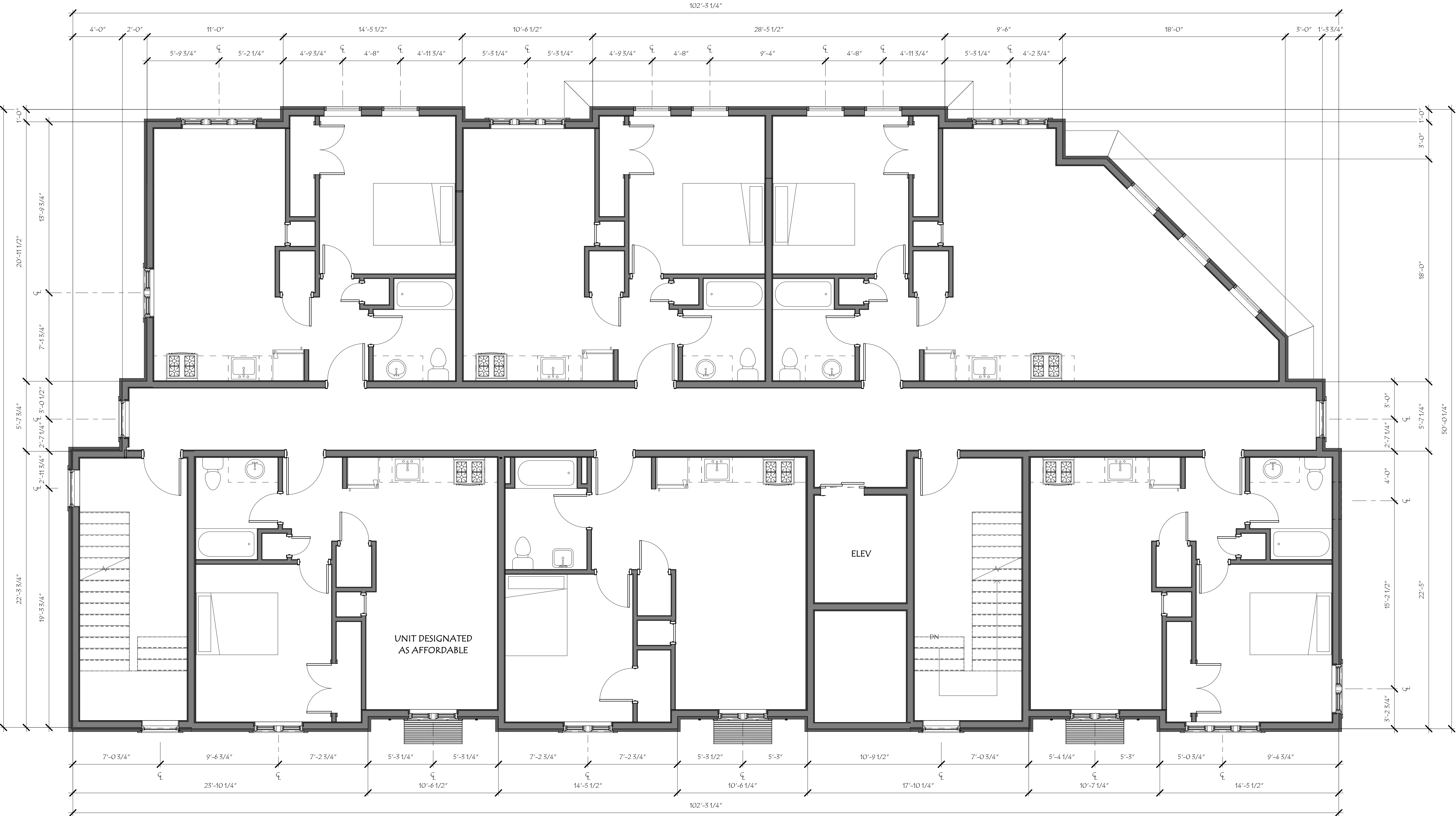
Revisions:	Date
#	Description

1/4" = 1'-0"	PPS	ALLW	20200004	04/05/20
Scale:	Drawn By:	Checked By:	Project No.:	Date:

Title:  
FIRST FLOOR PLAN

A1.01





1 2ND AND 3RD FLOORS  
1/4" = 1'-0"

NOT FOR  
CONSTRUCTION

ARLINGTON MIXED USE  
892 MASS AVE  
ARLINGTON, MA

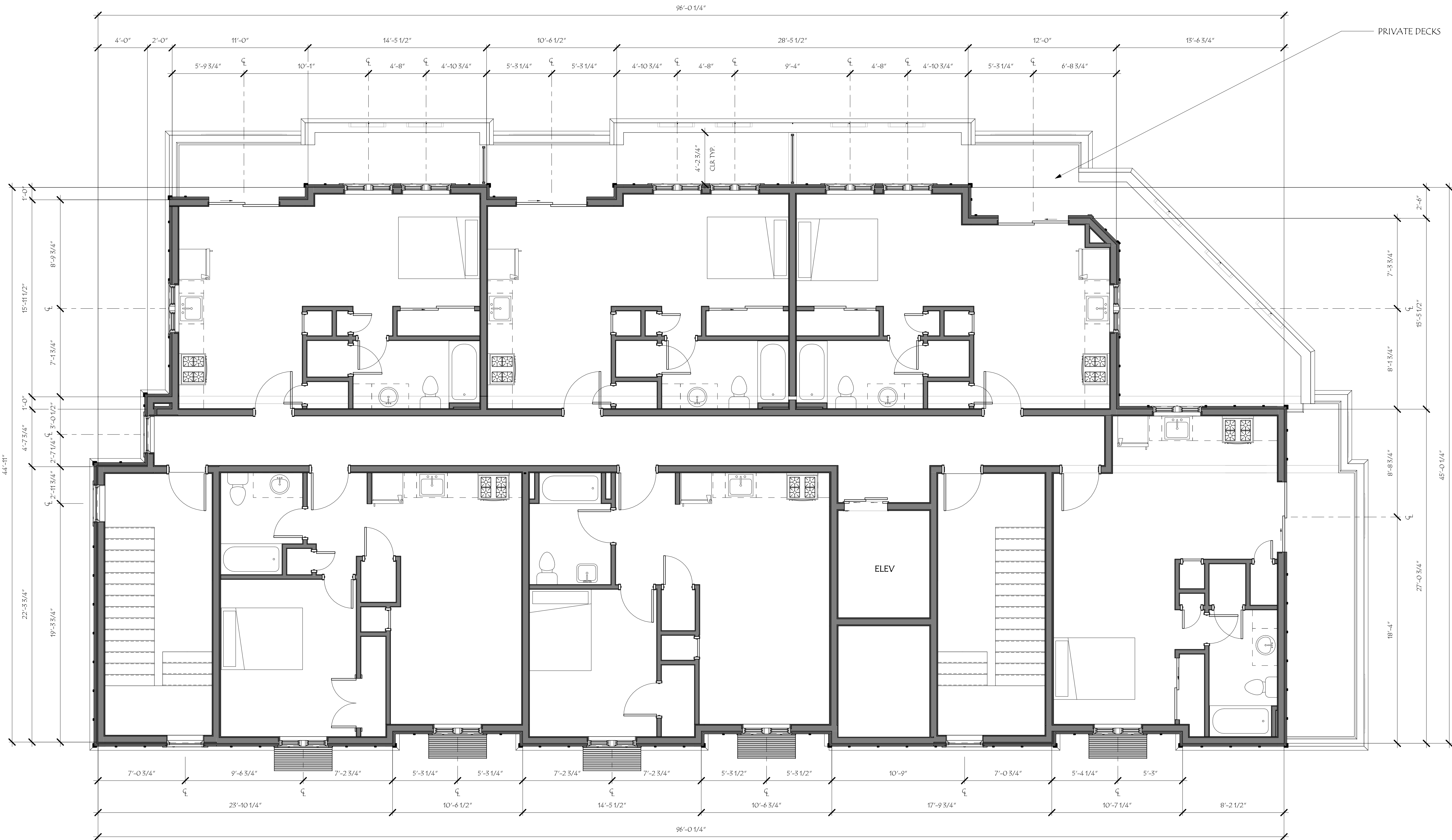
Revisions:		
#	Description	Date

1/4" = 1'-0"	PPS	
Scale:	Drawn By:	
	Checked By:	
	Project No.:	2020004
	Date:	04/05/20

Title:  
SECOND AND THIRD  
FLOOR PLAN

A1.02





PRIVATE DECKS

1 4TH FLOOR  
1/4" = 1'-0"

NOT FOR  
CONSTRUCTION

ARLINGTON MIXED USE

892 MASS AVE  
ARLINGTON, MA

Revisions:	#	Description	Date

1/4" = 1'-0"	PPS
	ALW
20200004	
04/05/20	

Scale:	Drawn By:	Checked By:	Project No.:	Date:

Title:  
FOURTH FLOOR  
PLAN

A1.03





5 WEST ELEVATION  
1/8" = 1'-0"



4 EAST ELEVATION  
1/8" = 1'-0"



3 CORNER ELEVATION  
1/8" = 1'-0"



2 SOUTH ELEVATION  
1/8" = 1'-0"



1 NORTH ELEVATION  
1/8" = 1'-0"

NOT FOR  
CONSTRUCTION

## ARLINGTON MIXED USE

892 MASS AVE  
ARLINGTON, MA

Revisions:	Date
#	Description

1/8" = 1'-0"	PPS	ALW	2020004	04/03/20
Scale:	Drawn By:	Checked By:	Project No.:	Date:

Title: BUILDING ELEVATIONS	A2.00
----------------------------------	-------





ARLINGTON MIXED USE

892 MASS AVE  
ARLINGTON, MA

NOT FOR  
CONSTRUCTION

Revisions:		
#	Description	Date

Scale:	PPS
Drawn By:	ALW
Checked By:	20200004
Project No.:	04/05/20
Date:	

Title:	3D RENDER- MASS AVE
	A9.00





ARLINGTON MIXED USE

892 MASS AVE  
ARLINGTON, MA

NOT FOR  
CONSTRUCTION

MARKET  
SQUARE  
ARCHITECTS  
104 Congress St., STE 303  
Portsmouth, NH 03801  
PH: 603.501.0202

Revisions:		Date
#	Description	

Scale:	PPS
Drawn By:	ALW
Checked By:	20200004
Project No.:	04/05/20
Date:	

Title: 3D RENDER - LOCKELAND	
	A9.01





To whom it may concern,

I have had experience in the rental market in Arlington over the last 8 plus years. I currently have many exclusive landlords that I work with in Arlington and about 60 plus units. The studio and one bedroom units are always the most sought after and always move fairly quickly. Two bedroom units will rent but do take longer. Professional couple wanting a home office or two professional roommates is the most common client for a 2 bed especially in a building and they are willing to pay the high end price. The new and modern two bedroom rentals in a building are usually high end and priced high so this does not attract families. Also on Mass Ave with a bike path and bus line most of my clients are young professionals and not families. I do have some families but mainly looking for a multi family or single family with a yard and neighborhood where you get more or your money. Hope this helps with your research and rental in the Mass Ave Arlington area.

Thanks,

Kristine Welch

Greater Metropolitan Real Estate

872 Main St Winchester, Ma 01890





# LEED v4 for Building Design and Construction: Homes and Multifamily Lowrise

Project Checklist

Project Name: 882-892 Massachusetts Ave, Arlington, MA 02476

Date: 3/26/2020

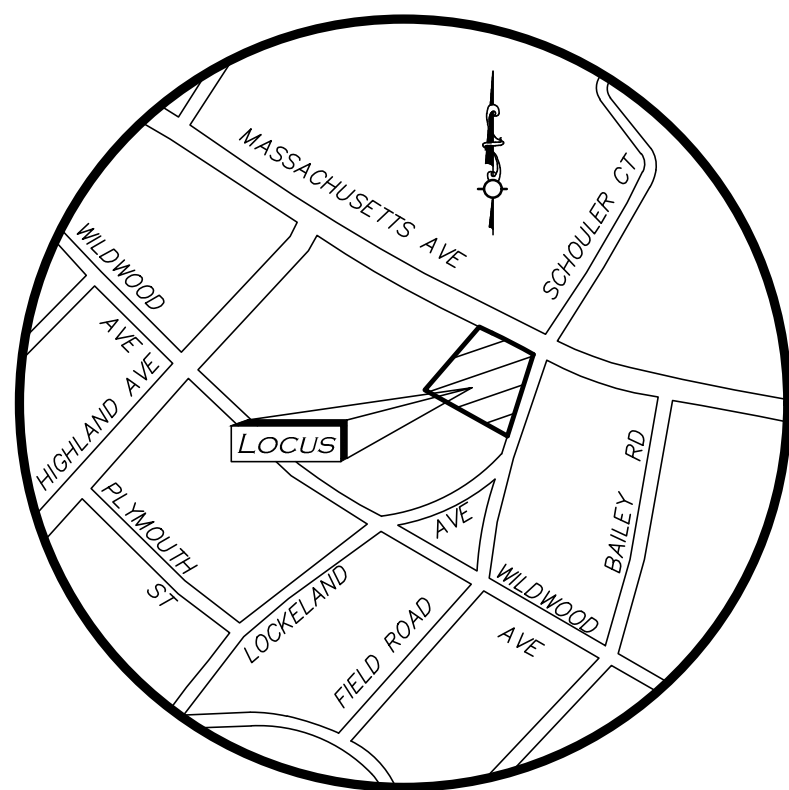
Y ? N

Y			Credit	Integrative Process	2
8	5	0	<b>Location and Transportation</b>		<b>15</b>
Y			Prereq	Floodplain Avoidance	Required
<b>PERFORMANCE PATH</b>					
			Credit	LEED for Neighborhood Development Location	15
<b>PRESCRIPTIVE PATH</b>					
4	3		Credit	Site Selection	8
2			Credit	Compact Development	3
	2		Credit	Community Resources	2
2			Credit	Access to Transit	2
2	2	0	<b>Sustainable Sites</b>		<b>7</b>
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	No Invasive Plants	Required
	1		Credit	Heat Island Reduction	2
	1		Credit	Rainwater Management	3
2			Credit	Non-Toxic Pest Control	2
4	1	0	<b>Water Efficiency</b>		<b>12</b>
Y			Prereq	Water Metering	Required
<b>PERFORMANCE PATH</b>					
			Credit	Total Water Use	12
<b>PRESCRIPTIVE PATH</b>					
4			Credit	Indoor Water Use	6
	1		Credit	Outdoor Water Use	4
15	12	0	<b>Energy and Atmosphere</b>		<b>38</b>
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Energy Metering	Required
Y			Prereq	Education of the Homeowner, Tenant or Building Manager	Required
<b>PERFORMANCE PATH</b>					
			Credit	Annual Energy Use	29
<b>BOTH PATHS</b>					
2	3		Credit	Efficient Hot Water Distribution System	5
			Credit	Advanced Utility Tracking	2
1			Credit	Active Solar Ready Design	1
	1		Credit	HVAC Start-Up Credentialing	1
<b>PRESCRIPTIVE PATH</b>					
Y			Prereq	Home Size	Required
			Credit	Building Orientation for Passive Solar	3
2			Credit	Air Infiltration	2
	1		Credit	Envelope Insulation	2
3			Credit	Windows	3
			Credit	Space Heating & Cooling Equipment	4

<b>EA PRESCRIPTIVE PATH (continued)</b>					
	3		Credit	Heating & Cooling Distribution Systems	3
	3		Credit	Efficient Domestic Hot Water Equipment	3
2			Credit	Lighting	2
2			Credit	High Efficiency Appliances	2
3	1		Credit	Renewable Energy	4
6	2	0	<b>Materials and Resources</b>		<b>10</b>
Y			Prereq	Certified Tropical Wood	Required
Y			Prereq	Durability Management	Required
	1		Credit	Durability Management Verification	1
3	1		Credit	Environmentally Preferable Products	4
3			Credit	Construction Waste Management	3
			Credit	Material Efficient Framing	2
7	2	0	<b>Indoor Environmental Quality</b>		<b>16</b>
Y			Prereq	Ventilation	Required
Y			Prereq	Combustion Venting	Required
Y			Prereq	Garage Pollutant Protection	Required
Y			Prereq	Radon-Resistant Construction	Required
Y			Prereq	Air Filtering	Required
Y			Prereq	Environmental Tobacco Smoke	Required
Y			Prereq	Compartmentalization	Required
1			Credit	Enhanced Ventilation	3
2			Credit	Contaminant Control	2
	2		Credit	Balancing of Heating and Cooling Distribution Systems	3
1			Credit	Enhanced Compartmentalization	1
			Credit	Enhanced Combustion Venting	2
			Credit	Enhanced Garage Pollutant Protection	2
3			Credit	Low Emitting Products	3
0	2	0	<b>Innovation</b>		<b>6</b>
Y			Prereq	Preliminary Rating	Required
	1		Credit	Innovation	5
	1		Credit	LEED AP Homes	1
0	0	0	<b>Regional Priority</b>		<b>4</b>
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
42	26	0	<b>TOTALS</b>		<b>Possible Points: 110</b>

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110





**LOCUS MAP**  
NOT TO SCALE

# SITE DEVELOPMENT PLAN SET

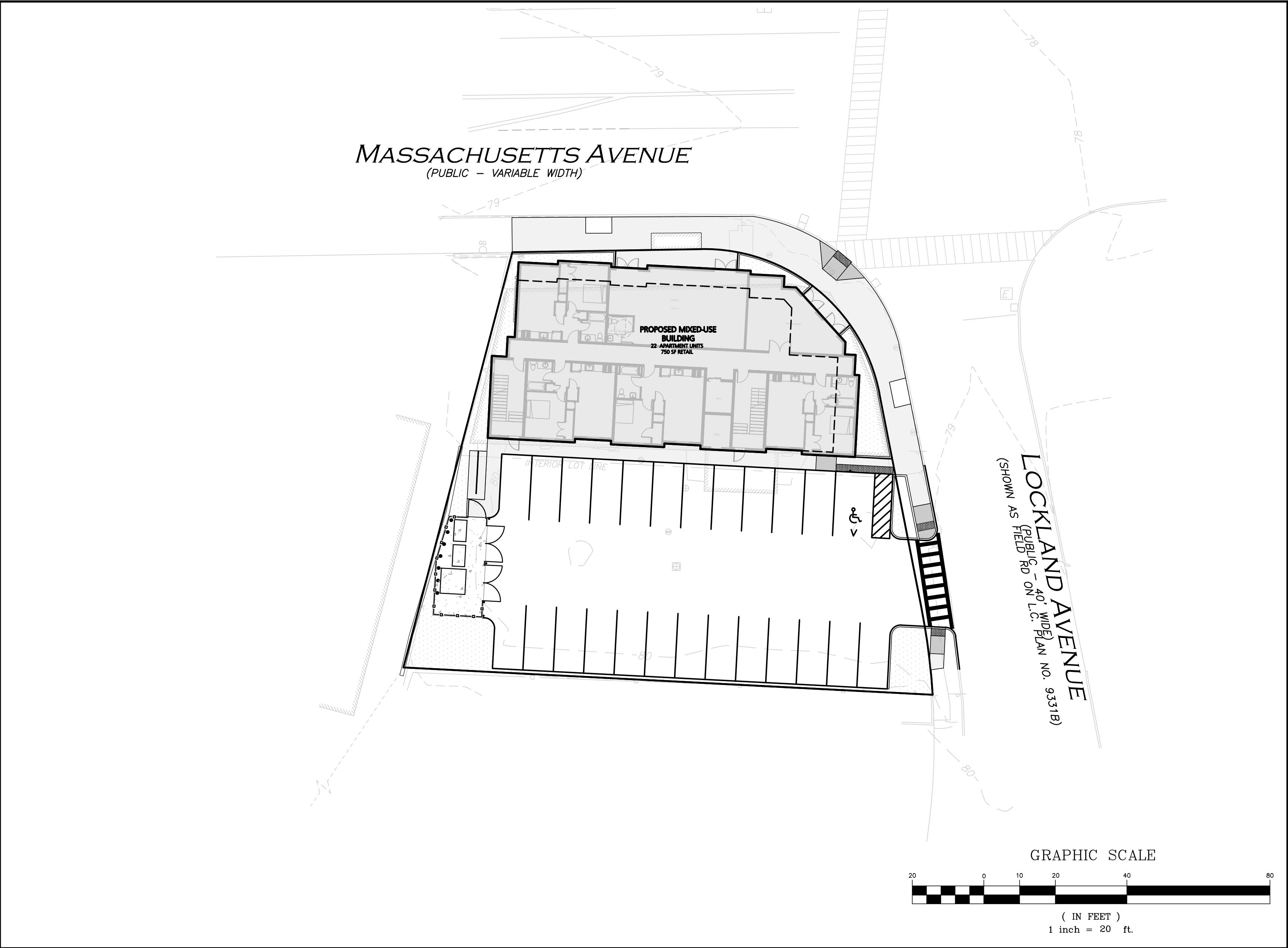
## 882-892 MASSACHUSETTS AVE

### ARLINGTON, MA 02476

**APPLICANT:**  
882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

**ARCHITECT:**  
MARKET SQUARE ARCHITECTS  
104 CONGRESS STREET, STE 203  
PORTSMOUTH, NH 03801  
(603) 501-0202

**CIVIL ENGINEER, LANDSCAPE ARCHITECT &  
LAND SURVEYOR:**  
ALLEN & MAJOR ASSOCIATES, INC.  
100 COMMERCE WAY, SUITE 5  
WOBURN, MA 01801  
(781) 985-6889



LIST OF DRAWINGS			
DRAWING TITLE	SHEET	ISSUED	REVISED
EXISTING CONDITIONS	V-101	4/10/2020	-
SITE PREPARATION PLAN	C-101	4/10/2020	-
LAYOUT & MATERIALS PLAN	C-102	4/10/2020	-
GRADING & DRAINAGE PLAN	C-103	4/10/2020	-
UTILITIES PLAN	C-104	4/10/2020	-
DETAILS	C-501	4/10/2020	-
DETAILS	C-502	4/10/2020	-
DETAILS	C-503	4/10/2020	-
LANDSCAPE PLAN	L-101	4/10/2020	-
LANDSCAPE DETAILS	L-501	4/10/2020	-



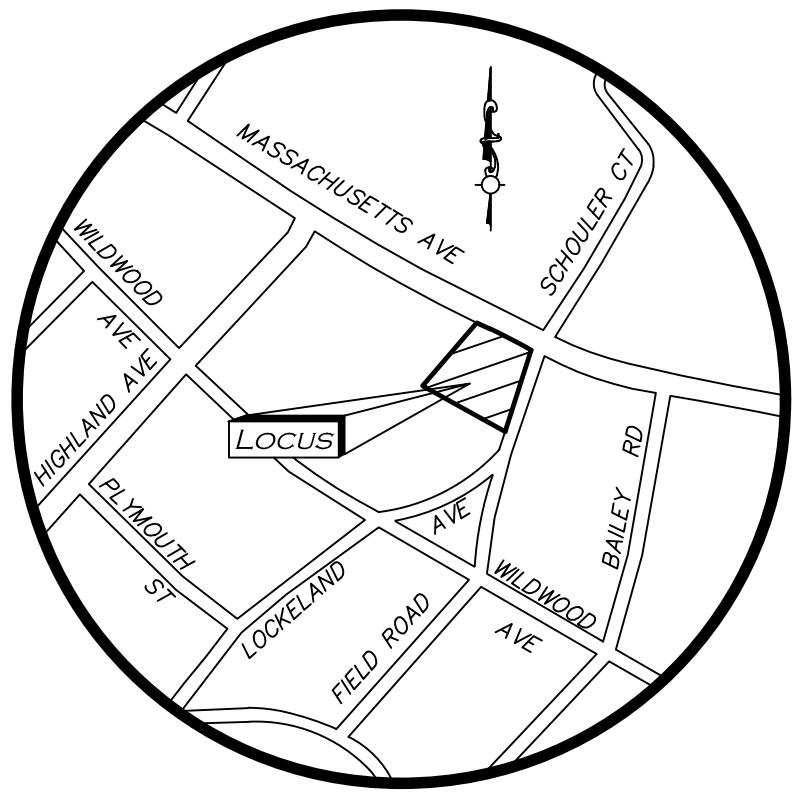
PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

PREPARED BY:

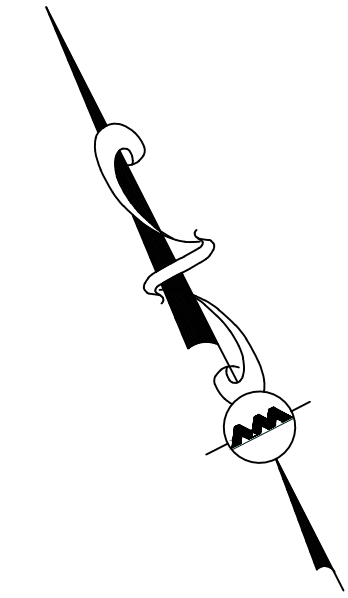
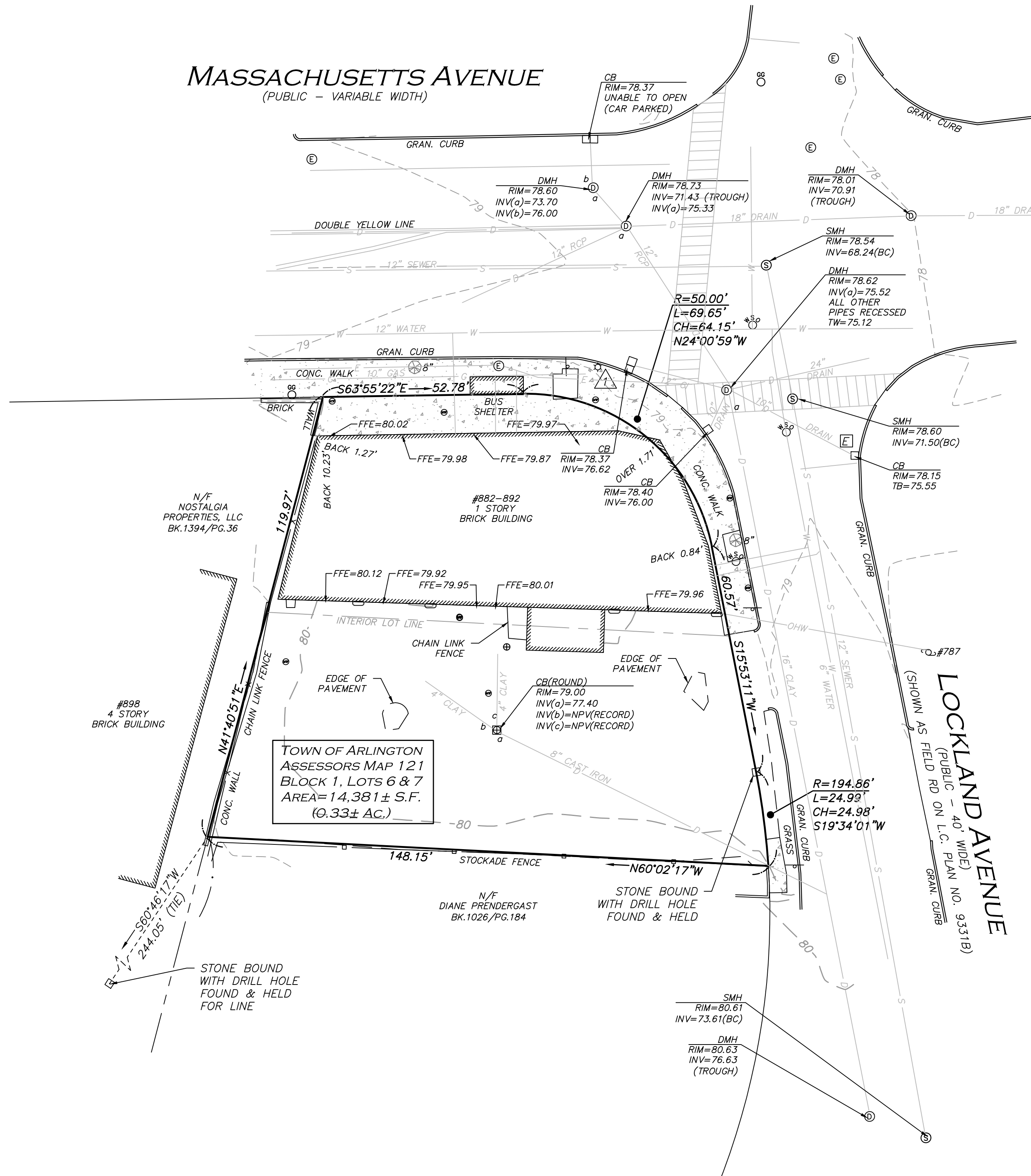
**ALLEN & MAJOR ASSOCIATES, INC.**  
civil engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
100 COMMERCE WAY, SUITE 5  
WOBURN MA 01801  
TEL: (781) 935-6889  
FAX: (781) 935-2896  
WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

ISSUED FOR ARB REVIEW: 4/10/2020





LOCUS MAP  
(NOT TO SCALE)



### LEGEND

STONE BOUND (SB)	⊞
DRAIN MANHOLE (DMH)	⊕
SEWER MANHOLE (SMH)	⊙
ELECTRIC MANHOLE (EMH)	⊖
MISC. MANHOLE (MH)	⊗
TELEPHONE MANHOLE (TMH)	⊘
CATCH BASIN (CB)	⊡
ROUND CATCH BASIN (RCB)	⊢
MONITOR WELL	⊕
DOWNSPOUT	⊕
WATER GATE	⊕
GAS GATE	⊕
BOLLARD	⊕
TREE	⊕
CONCRETE	⊕
BUILDING	⊕
1' CONTOUR	⊕
5' CONTOUR	⊕
PROPERTY LINE	⊕
ABUTTERS LINE	⊕
EDGE OF PAVEMENT	⊕
CURB	⊕
CHAIN LINK FENCE	⊕
STOCKADE FENCE	⊕
WATER LINE	⊕
SEWER LINE	⊕
DRAIN LINE	⊕
GAS LINE	⊕
ELECTRIC LINE	⊕
TELEPHONE LINE	⊕
FINISHED FLOOR ELEVATION	FFE
BITUMINOUS	BIT.
CONCRETE	CONC.
GRANITE	GRAN.
NOW OR FORMERLY	N/F
BOOK	BK.
PAGE	PG.
CERTIFICATE OF TITLE	COT
LAND COURT	L.C.
LAND COURT CASE	L.C.C.

### LOCUS REFERENCES

- TOWN OF ARLINGTON ASSESSORS MAP 26, BLOCK 1, LOTS 6 & 7.
- RECORD OWNER: 882-892 MASSACHUSETTS AVENUE, LLC
- L.C. BOOK 1523, PAGE 101
- L.C.C. #9331E

### PLAN REFERENCES

- L.C.C. 9331B
- L.C.C. 13975B

### NOTES

- NORTH ARROW IS BASED ON MASSACHUSETTS GRID COORDINATE SYSTEM (MAINLAND ZONE) (NAD 83).
- BOOK/PAGE AND PLAN REFERENCES ARE TAKEN FROM MIDDLESEX (SOUTH) REGISTRY OF DEEDS IN CAMBRIDGE, MA.
- VERTICAL DATUM IS NAVD 88 ESTABLISHED USING RTK GPS OBSERVATION.
- CONTOUR INTERVAL IS ONE FOOT (1').
- THERE WERE NO STRIPED PARKING SPACES OBSERVED ON SITE AT THE TIME OF SURVEY.

### GRAPHIC SCALE



N:\PROJECTS\2729-01\SURVEY\DRAWINGS\CURRENT\S-2729-01-EC.DWG  
FBJ ??? PG. ???

### UTILITY STATEMENT

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. ALLEN & MAJOR ASSOCIATES, INC. (A&M) MAKES NO GUARANTEE THAT THE UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. A&M FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. A&M HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

### BENCHMARK SUMMARY

TBM #	DESCRIPTION	ELEV.
△	CHISEL SQUARE ON LIGHT POLE BASE	79.15

WE HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL ON THE GROUND SURVEY PERFORMED ON DECEMBER 12, 2019.

04/10/20  
PROFESSIONAL LAND SURVEYOR FOR ALLEN & MAJOR ASSOCIATES, INC.

APR 10, 2020  
NORMAN I. LIPSITZ  
No. 28446  
PROFESSIONAL LAND SURVEYOR

REV	DATE	DESCRIPTION
-----	------	-------------

APPLICANT/OWNER:  
FRANK PASCIUTO  
455 MASSACHUSETTS AVENUE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVENUE  
ARLINGTON, MA

PROJECT NO. 2729-01 DATE: 01/14/20

SCALE: 1" = 20' DWG. NAME: S-2729-01-EC

DRAFTED BY: AJR CHECKED BY: NIL

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.  
civil engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
100 COMMERCE WAY, SUITE 5  
WOBURN MA 01801-8501  
TEL: (781) 935-6889  
FAX: (781) 935-2896

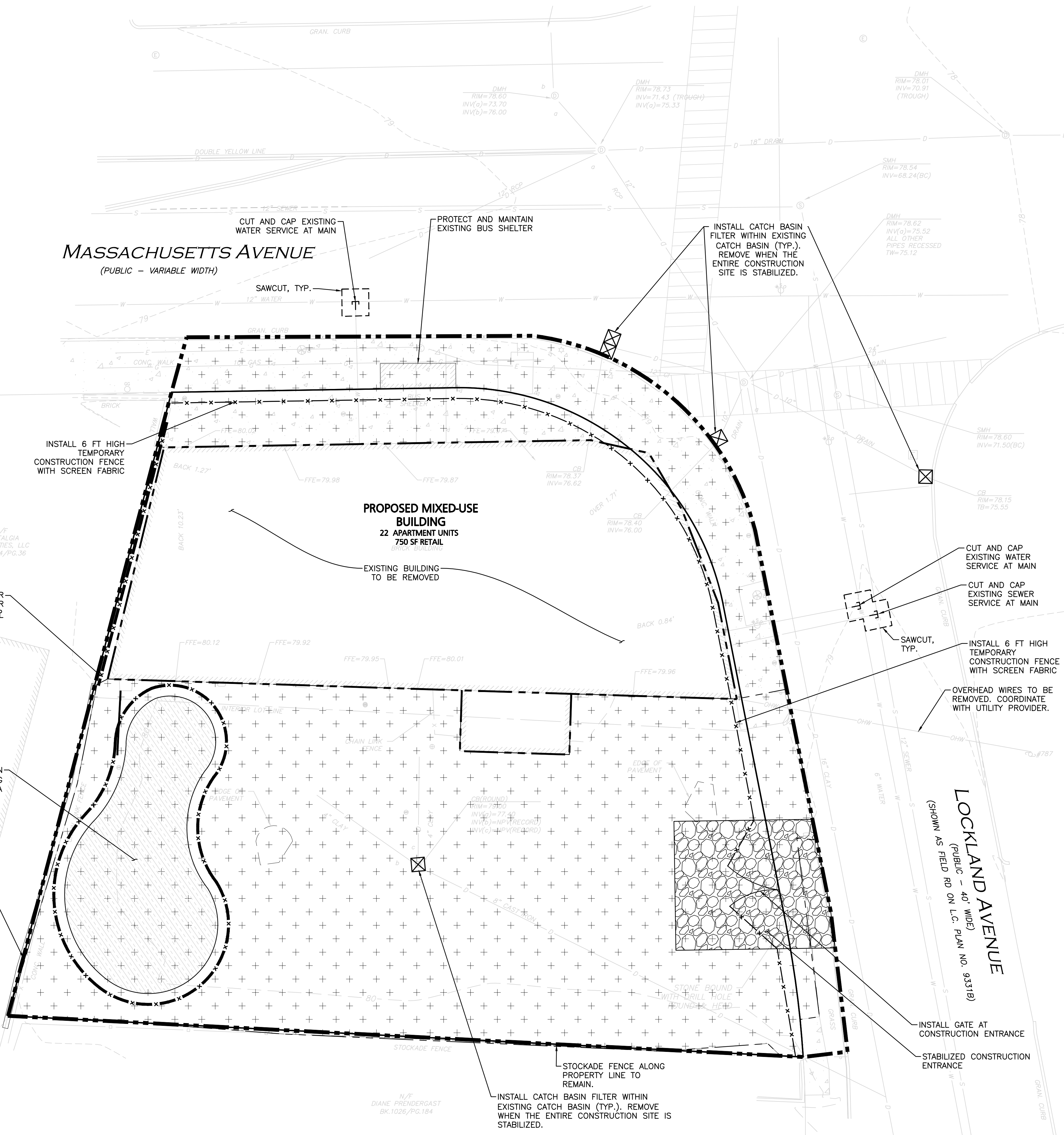
WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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DRAWING TITLE: EXISTING CONDITIONS SHEET NO. V-101

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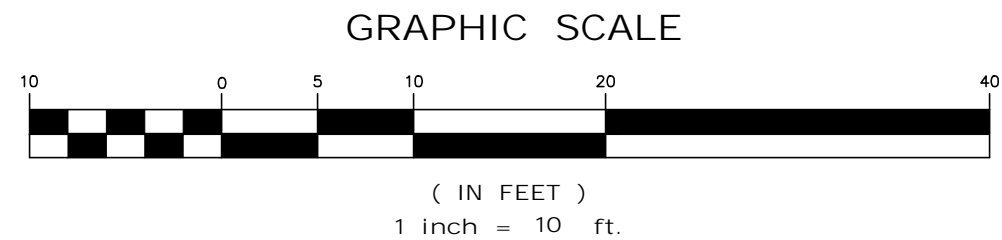




LEGEND	
TUBULAR BARRIER	— x — x —
CATCH BASIN FILTER	⊠
STABILIZED ENTRANCE	▨
STOCKPILE/STAGING AREA	▨
LIMIT OF DISTURBANCE	— · — · —
LIMIT OF 'CLEAR AND GRUB'	— · — · —
BUILDING TO BE REMOVED	▨
PAVEMENT TO BE REMOVED	▨
UTILITY CUT AND CAP	E
TEMPORARY FENCE	— x — x —

SITE PREPARATION NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. ALTHOUGH CERTAIN ITEMS HAVE BEEN NOTED ON THIS DRAWING FOR DEMOLITION, NO ATTEMPT HAS BEEN MADE TO DELINEATE EACH AND EVERY ITEM THAT REQUIRES DEMOLITION FOR THE COMPLETION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL NECESSARY DEMOLITION WORK TO COMPLETE THE PROJECT. ALLEN & MAJOR ASSOCIATES, INC. IS NOT RESPONSIBLE FOR SITE DEMOLITION ITEMS NOT SHOWN ON THE SURVEY, OR SPECIFICALLY NOTED. THE DEMOLITION NOTES AND ARROWS ON THIS PLAN ARE TYPICAL AND DO NOT REFLECT QUANTITY.
4. EXISTING WATER AND SEWER CONNECTIONS SHALL BE CUT AND CAPPED IN ACCORDANCE WITH THE TOWN OF ARLINGTON REQUIREMENTS.
5. THE INFORMATION SHOWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION. ANY ALTERATION, MISUSE, OR RECALCULATION OF INFORMATION OR DATA WITHOUT THE EXPRESSED, WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS STRICTLY PROHIBITED.
6. ALL INSTALLED CATCH BASINS AND AREA DRAINS SHALL HAVE A FILTER INSTALLED IMMEDIATELY, AND THE FILTER SHALL BE REMOVED WHEN THE ENTIRE SITE IS STABILIZED.



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
-----	------	-------------

APPLICANT/OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
-------------	---------	-------	----------

SCALE:	1" = 10'	DWG. NAME:	C272901
--------	----------	------------	---------

DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC
--------------	-----	-------------	--------

PREPARED BY:



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DRAWING TITLE:

SITE PREPARATION PLAN

SHEET No.

C-101



ZONING SUMMARY TABLE  
B2-NEIGHBORHOOD BUSINESS (MIXED-USE <=20,000SF)

ITEM	REQUIRED/ ALLOWED	EXISTING	PROPOSED
MINIMUM LOT AREA	----	14,380± SF	14,380± SF
MINIMUM LOT AREA PER UNIT	----	N/A	575± SF
MINIMUM FRONTAGE	50 FT	208± FT	208± FT
MINIMUM FRONT YARD SETBACK	----	0 FT	1.9 FT
MINIMUM SIDE YARD SETBACK	----	1.3 FT	1.9 FT
MINIMUM REAR YARD SETBACK	N/A	N/A	N/A
LANDSCAPED OPEN SPACE	10%	0%	10.2%
USABLE OPEN SPACE	20%	5.3%	11.9%(2)
MAXIMUM HEIGHT	50 FT	13.5± FT	39 FT
MAXIMUM HEIGHT STORIES	4(1)	1	4
FLOOR AREA RATIO	1.50	0.35	1.25

ZONING TABLE NOTES:

- SECTION 5.3.17. FOR BUILDING MORE THAN 3 STORIES IN HEIGHT, AN ADDITIONAL 7.5 FT STEP-BACK SHALL BE PROVIDED BEGINNING AT THE THIRD STORY LEVEL OR 30 FT ABOVE GRADE, WHICHEVER IS LESS. THE UPPER STORY STEP-BACK SHALL BE PROVIDED ALONG ALL BUILDING ELEVATIONS WITH STREET FRONTAGE.
- SECTION 5.3.21. SUPPLEMENTAL REQUIREMENTS IN THE BUSINESS AND INDUSTRIAL DISTRICTS, D. FOR MIXED USES AND ANY PERMITTED RESIDENTIAL USE NOT SPECIFICALLY IDENTIFIED IN THE TABLES IN SECTION 5.5.2, THE MINIMUM OPEN SPACE REQUIREMENTS (COMPUTED FROM THE RESIDENTIAL FLOOR AREA ONLY) SHALL BE 10% LANDSCAPED AND 20% USABLE IN THE B1, B2, B2A, B3, AND B4 DISTRICTS, AND 15 PERCENT USABLE IN THE B5 DISTRICT. A WAIVER MAY BE REQUIRED FROM THE USABLE OPEN SPACE REQUIREMENT.

PARKING SUMMARY TABLE

USE	CALCULATION	MIN. REQUIRED	TOTAL PROPOSED
APARTMENT BUILDING	1.15 SPACES PER 1 BED UNIT	21	21
	18 X 1.15 = 21 REQUIRED		
GENERAL RETAIL	1 SPACE PER EFFICIENCY UNIT	4	4
	4 X 1 = 4 REQUIRED		
	1 PER 300 SF	N/A	N/A
	729 SF (UNDER 3,000 SF PARKING N/A)		
		25	25

ADA SPACES REQUIRED:

(15-25) TOTAL PARKING SPACES PROVIDED, 1 SHALL BE THE MINIMUM ADA PARKING PROVIDED, 1 SPACES BEING VAN ACCESSIBLE.

PROVIDED 1 SPACES, 1 BEING VAN ACCESSIBLE.

PARKING TABLE NOTES:

- SECTION 6.1.10, C. FOR A MIXED-USE DEVELOPMENT THE FIRST 3,000 SF OF NON-RESIDENTIAL SPACE IS EXEMPT FROM THE PARKING REQUIREMENTS OF THIS SECTION 6.1.
- SECTION 6.1.11, STANDARD PARKING STALLS SHALL BE 8.5'X18', AND COMPACT SPACES SHALL BE 8'X16'(UP TO 20% ALLOWED WITH S.P.). DRIVE AISLE WIDTH SHALL BE 24' FOR TWO-WAY TRAFFIC.

LEGEND

PROP. PROPERTY LINE	---
SIGN	+
BOLLARD	•
BUILDING	[Hatched Box]
BUILDING ARCHITECTURE	[Hatched Box]
BUILDING INTERIOR WALLS	[Hatched Box]
CURB	---
RETAINING WALL	[Hatched Box]
PARKING STRIPING	[Hatched Box]
ROADWAY STRIPING	[Hatched Box]
SIDEWALK	---
ADA ACCESSIBLE RAMP	[Hatched Box]
ADA DET. WARNING SURFACE	[Hatched Box]
SNOW STORAGE	[Hatched Box]
SETBACK LINE	---
BASELINE	---
SAW-CUT LINE	---
PARKING COUNT	10
COMPACT PARKING STALL	⊙
CHAIN LINK FENCE	---x---
WOOD FENCE	---□---

NOTES

- WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS OR CONDITIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR. ALL SITE ITEMS SHALL BE LAID OUT AND AS BUILT BY A LICENSED LAND SURVEYOR.
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MASSACHUSETTS AVENUE  
(PUBLIC - VARIABLE WIDTH)

REMOVE AND RESET VERTICAL GRANITE CURB

PROPOSED VERTICAL GRANITE CURB

EXISTING BUS SHELTER TO REMAIN, REMOVE AND REPLACE AS REQUIRED

RECONSTRUCT CONCRETE SIDEWALK

ADA RAMP WITH DETECTABLE WARNING PAVERS

RECONSTRUCT CONCRETE SIDEWALK

REMOVE AND RESET VERTICAL GRANITE CURB

PROPOSED VERTICAL GRANITE CURB

ADA RAMP WITH DETECTABLE WARNING PAVERS

PROPOSED VERTICAL GRANITE CURB

ADA RAMP WITH DETECTABLE WARNING PAVERS

6 FT WIDE CROSSWALK

ADA RAMP WITH DETECTABLE WARNING PAVERS

ADA RAMP WITH DETECTABLE WARNING PAVERS

ADA RAMP WITH DETECTABLE WARNING PAVERS

ADA RAMP WITH DETECTABLE WARNING PAVERS

ADA RAMP WITH DETECTABLE WARNING PAVERS

ADA RAMP WITH DETECTABLE WARNING PAVERS

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ADA RAMP WITH DETECTABLE WARNING PAVERS

ADA RAMP WITH DETECTABLE WARNING PAVERS

ADA RAMP WITH DETECTABLE WARNING PAVERS

ADA RAMP WITH DETECTABLE WARNING PAVERS

N/F NOSTALGIA PROPERTIES, LLC  
BK.1394/PG.36

12 FT BIKE RACK SHORT TERM BIKE STORAGE

EXISTING RETAINING WALL WITH FENCE TO REMAIN

REMOVE AND REPLACE CHAIN-LINK FENCE AS REQUIRED WITHIN CONC. WALL

#898 4 STORY BRICK BUILDING

PROPOSED TRASH ENCLOSURE W/ A 6CY TRASH DUMPSTER, AND 2 3CY RECYCLE DUMPSTERS

SNOW STORAGE ARE, TYP.

EDGE OF PAVEMENT

STOCKADE FENCE

STOCKADE FENCE ALONG PROPERTY LINE TO REMAIN.

END VGC

SNOW STORAGE ARE, TYP.

N/F DIANE PRENDERGAST  
BK.1026/PG.184

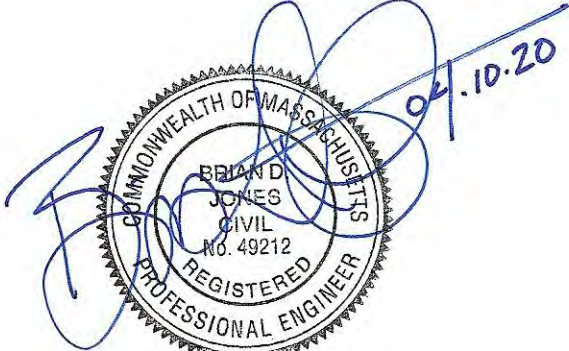
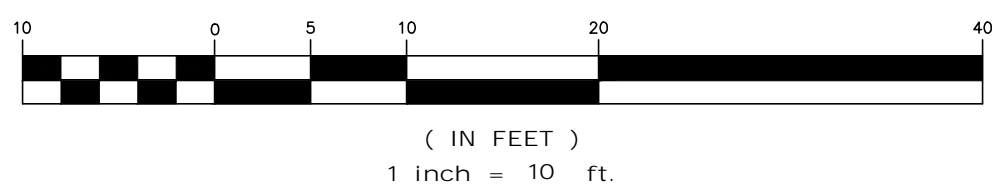
LOCKLAND AVENUE  
(PUBLIC - 40' WIDE)  
(SHOWN AS FIELD RD ON L.C. PLAN NO. 9331B)

DIG SAFE



BEFORE YOU DIG  
CALL 811 OR  
1-888-DIG-SAFE  
1-888-344-7233

GRAPHIC SCALE



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV DATE DESCRIPTION

APPLICANT/OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO. 2729-01 DATE: 04-10-20

SCALE: 1" = 10' DWG. NAME: C2729-01

DESIGNED BY: ARM CHECKED BY: BDJ/RC

PREPARED BY:

**ALLEN & MAJOR ASSOCIATES, INC.**  
civil engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
100 COMMERCE WAY, SUITE 5  
WOBBURN MA 01801  
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DRAWING TITLE:

LAYOUT & MATERIALS PLAN

SHEET No.

C-102





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R:\PROJECTS\2729-01\CIVIL\DRAWINGS\CURRENT\C-2729-01\_GRADING & DRAINAGE.DWG

## SPOT GRADE



79.50 ———

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LOCKLAND AVENUE  
(PUBLIC - 40' WIDE)  
(SHOWN AS FIELD RD ON L.C. PLAN NO. 9331B)

ROCKLAND, (PUBLIC - 40' WIDE)  
PLAN NO. 9331B)  
(SHOWN AS FIELD RD ON L.C. PLAN NO. 9331B)

( IN FEET )  
1 inch = 10 ft.

PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
-----	------	-------------

APPLICANT\OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

**PROJECT:**

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
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SCALE:	1" = 10'	DWG. NAME:	C2729-01
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DESIGNED BY: ARM CHECKED BY: BDJ/RC

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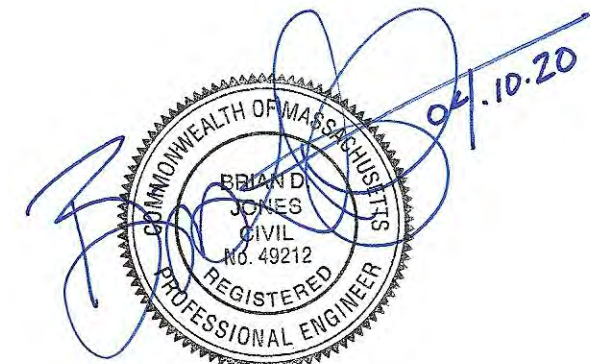
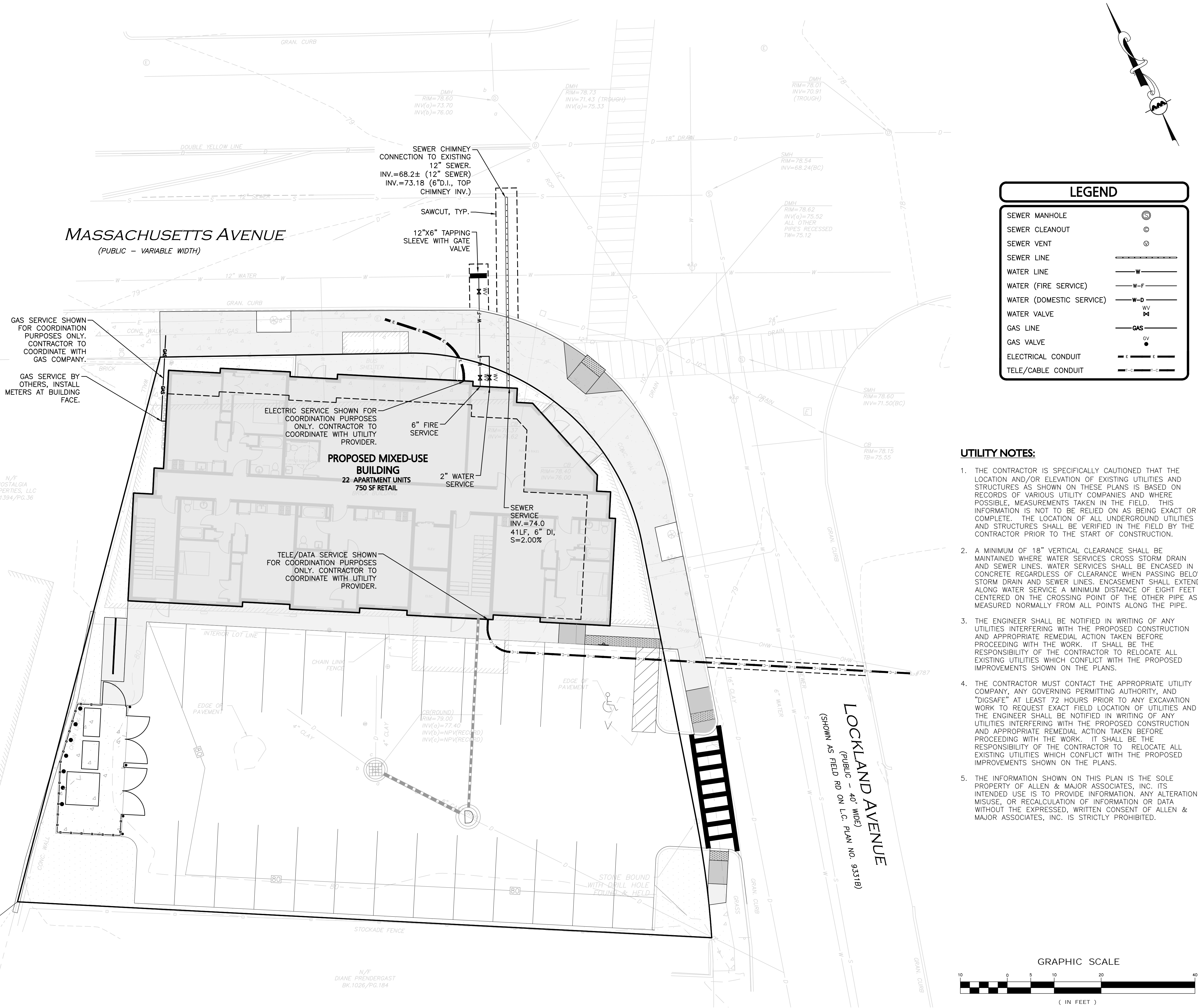
## GRADING & DRAINAGE PLAN

**SHEET No.**

C-103

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PROFESSIONAL ENGINEER FOR  
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APPLICANT/OWNER:  
**882-892 MASSACHUSETTS AVE, LLC**  
**452 MASSACHUSETTS AVE, STE 1**  
**ARLINGTON, MA 02474**

PROJECT:  
**892 MASSACHUSETTS AVE**  
**ARLINGTON, MA 02476**

PROJECT NO. 2729-01 DATE: 04-10-20

SCALE: 1" = 10' DWG. NAME: C2729-01

DESIGNED BY: ARM CHECKED BY: BDJ/RC

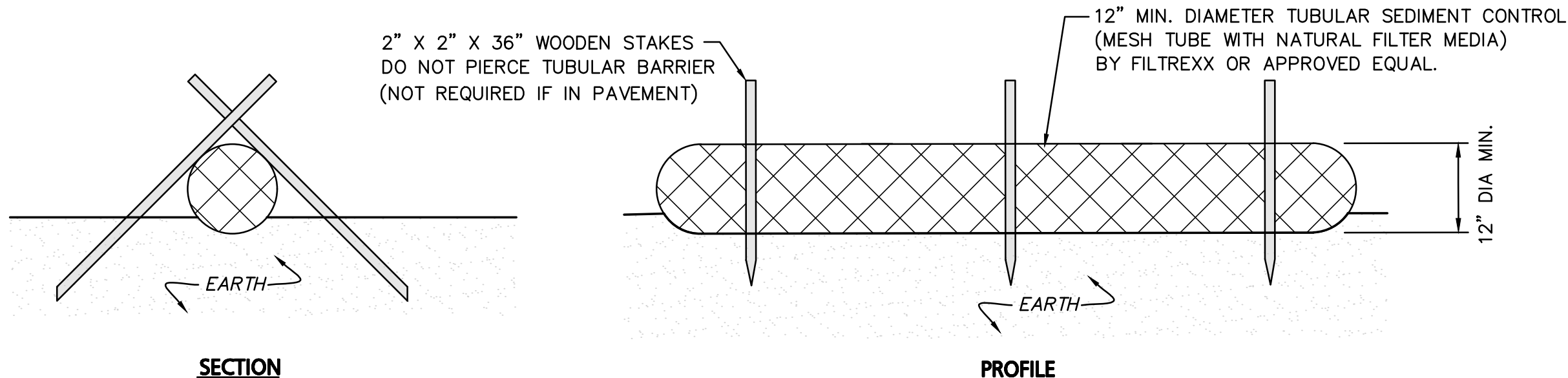
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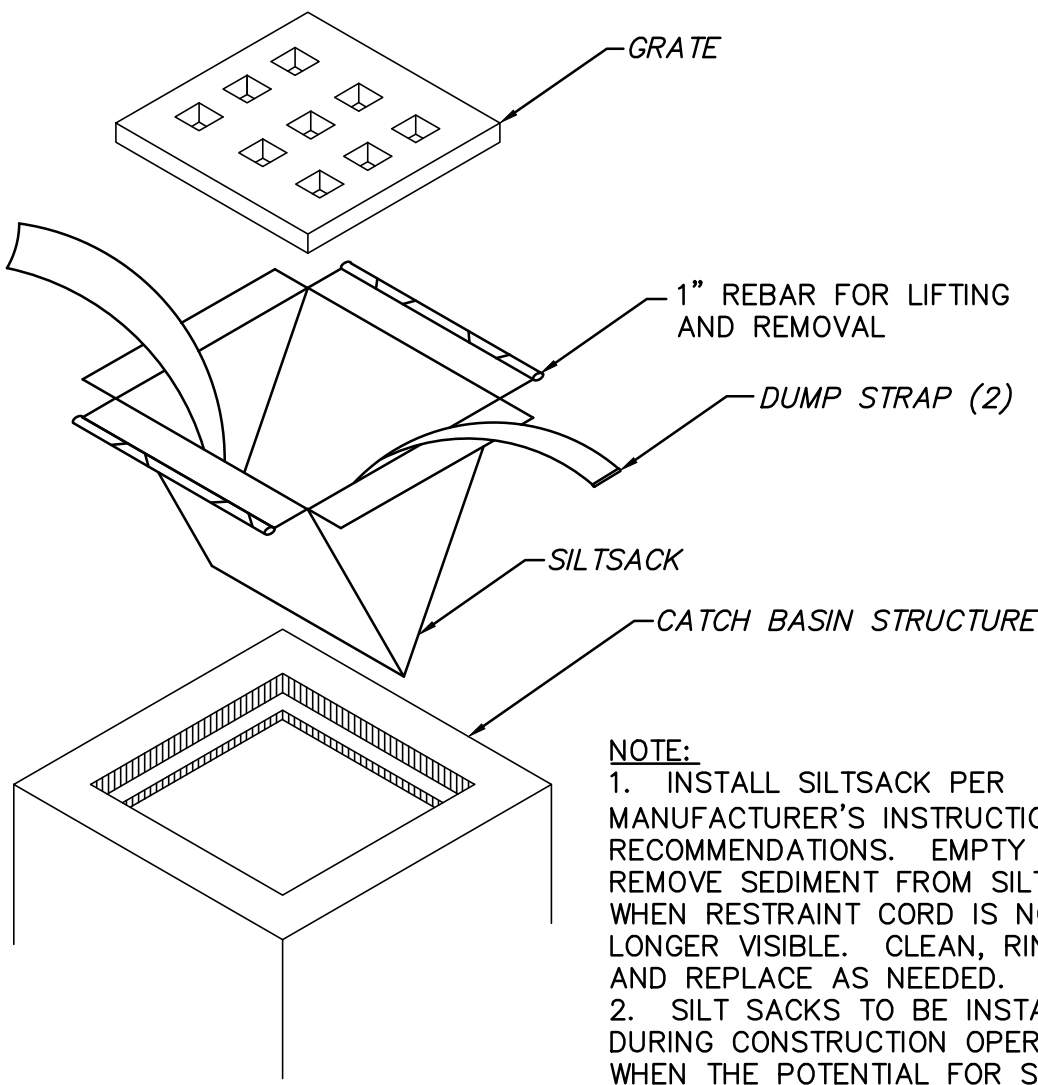
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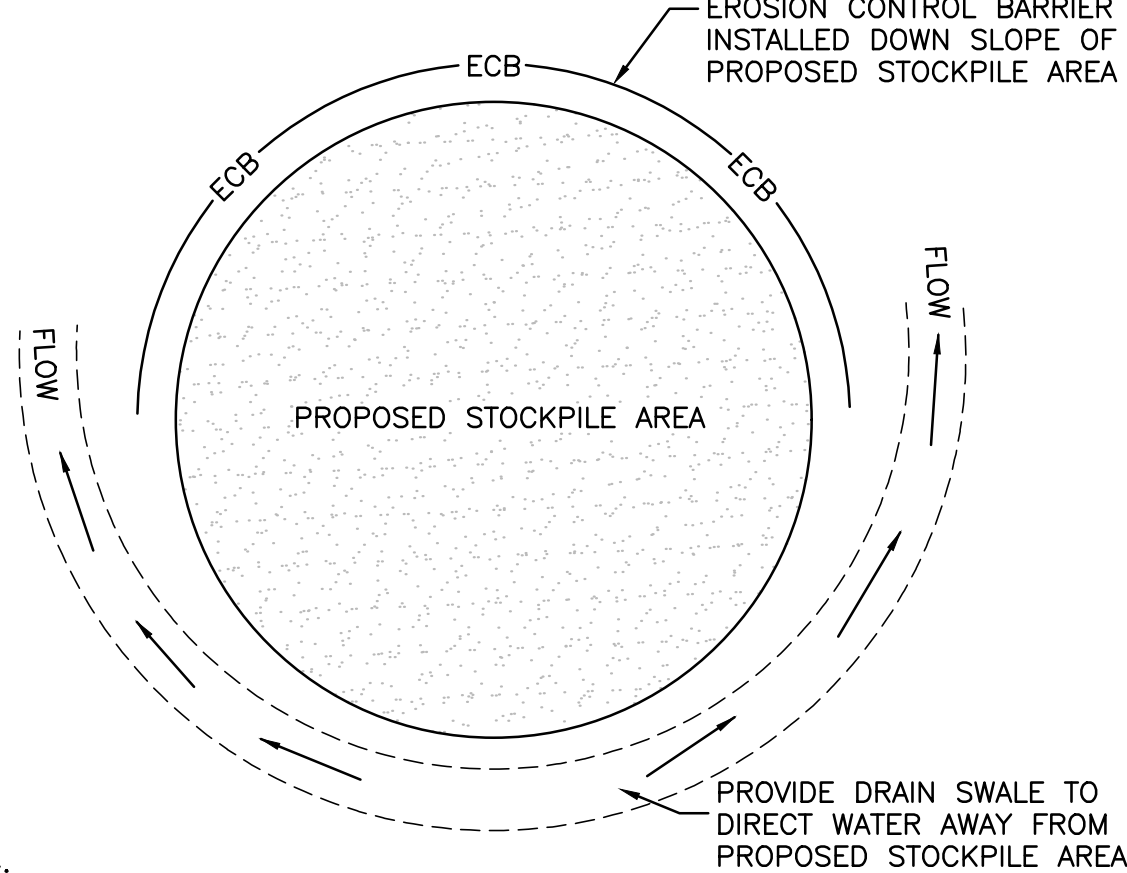


- SECTION
- PROFILE
- NOTES:
- ALL MATERIALS TO MEET MANUFACTURERS SPECIFICATIONS.
  - INSTALL WOODEN STAKES IN A CRISS-CROSS PATTERN EVERY 8' ON CENTER.
  - OVERLAP TUBULAR BARRIER SEGMENTS A MINIMUM OF 12".
  - THE CONTRACTOR SHALL MAINTAIN THE TUBULAR BARRIERS IN A FUNCTIONAL CONDITION AT ALL TIMES. THE CONTROLS SHALL BE ROUTINELY INSPECTED BY THE CONTRACTOR.
  - WHERE THE TUBULAR BARRIERS REQUIRE REPAIR OR SEDIMENT REMOVAL, IT WILL BE COMPLETED BY THE CONTRACTOR AT NO ADDITIONAL COST.
  - AT A MINIMUM, THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE WHEN THEY REACH 1/3 THE EXPOSED HEIGHT OF THE BARRIER.

TUBULAR SEDIMENT BARRIER  
NOT TO SCALE

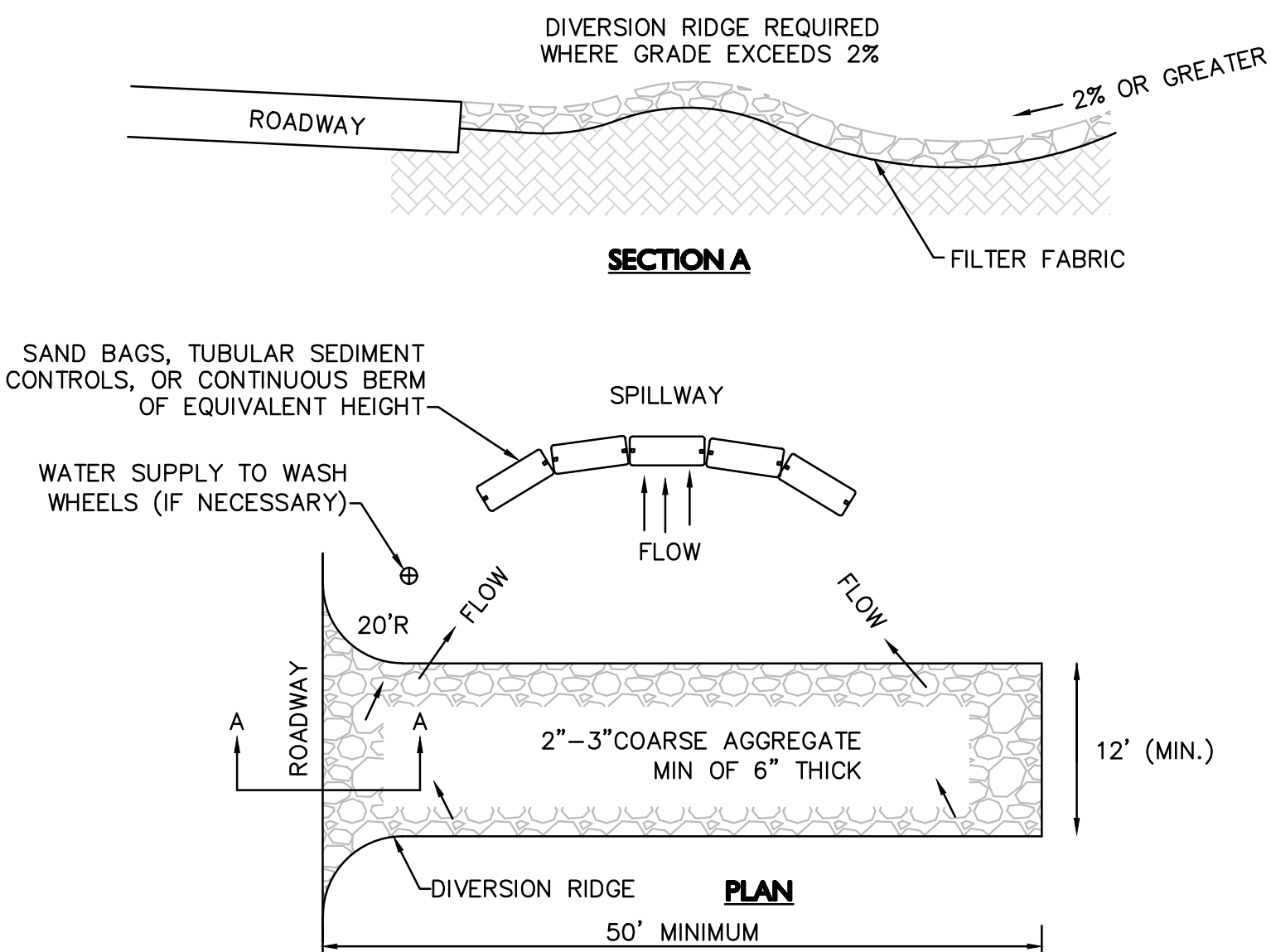


SILTSACK INLET DETAIL  
NOT TO SCALE

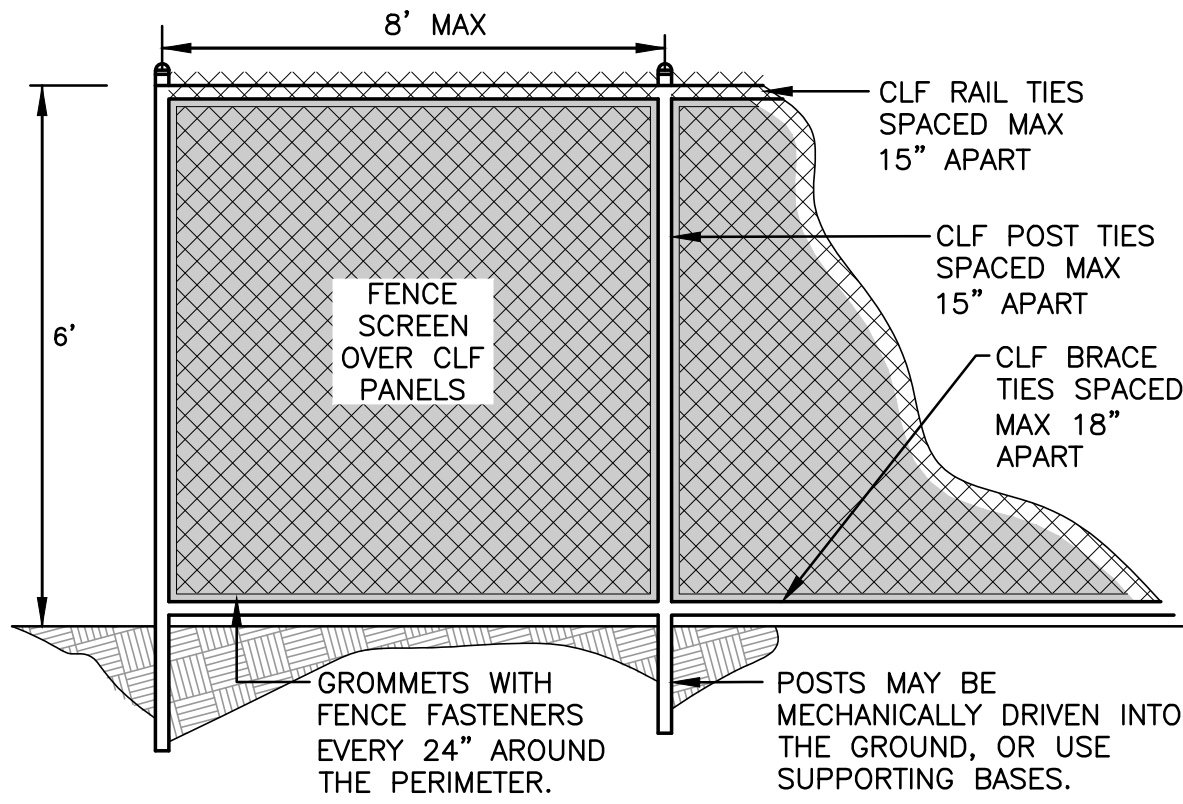


- NOTES:
- SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH STRAW AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
  - SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDED WITH WINTER RYE (FOR FALL SEEDING AT 1LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH STRAW MULCH (AT 100LB/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

STOCKPILE PROTECTION DETAIL  
NOT TO SCALE

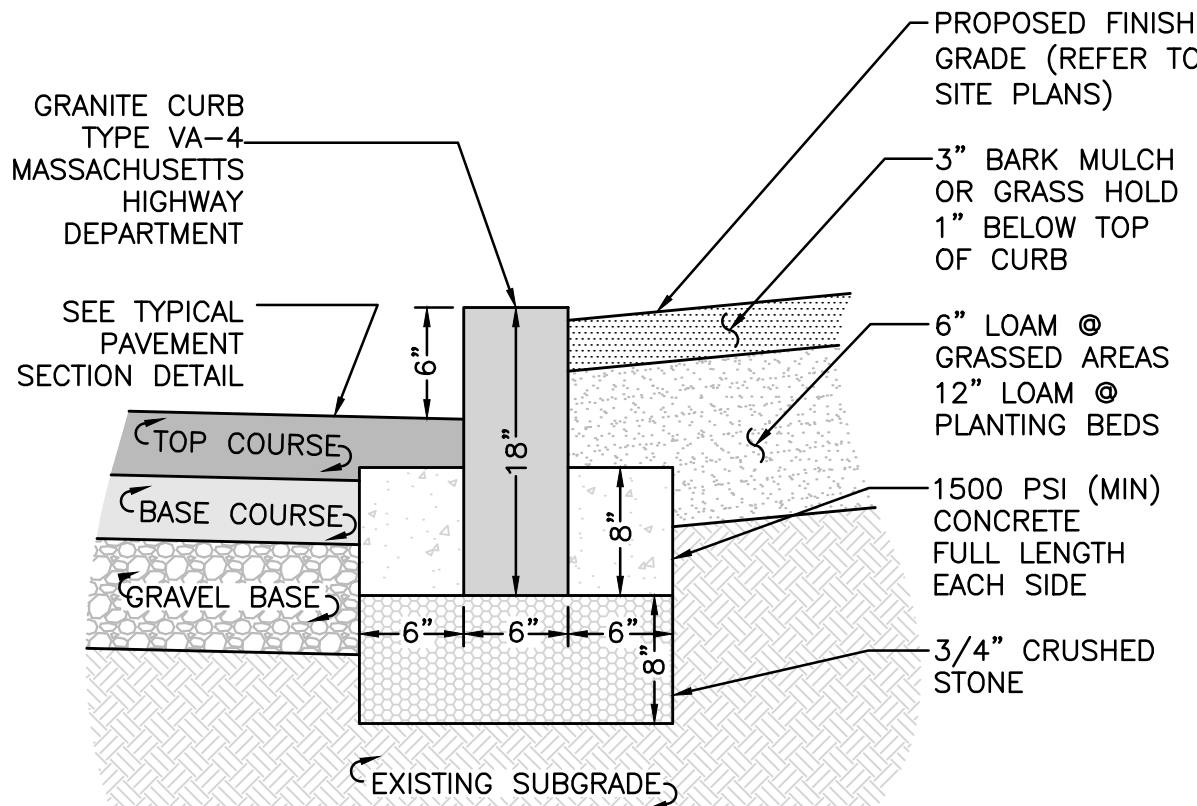


- SECTION A
- PLAN
- TEMPORARY CONSTRUCTION ENTRANCE/EXIT
- NOT TO SCALE
- NOTES:
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
  - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
  - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
  - USE SANDBAGS, TUBULAR SEDIMENT CONTROLS, OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

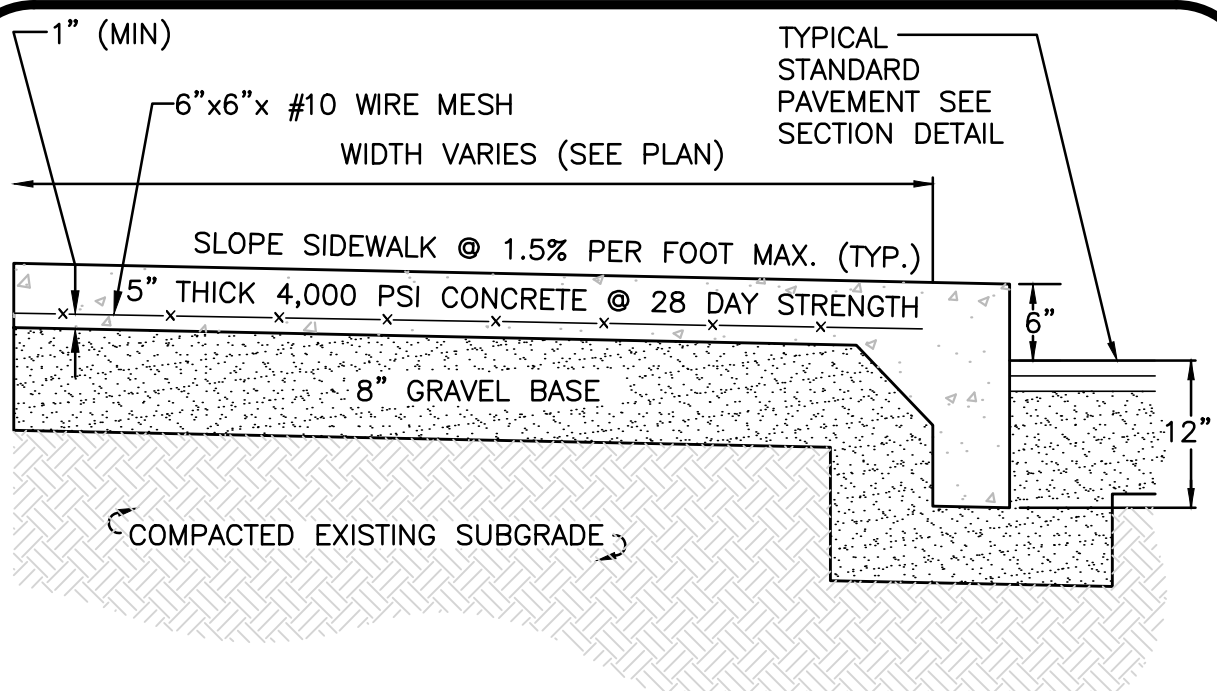


- NOTES:
- SCREEN MATERIAL SHALL BE MADE FROM KNITTED HIGH DENSITY POLYETHYLENE WITH UV ADDITIVES.
  - SCREEN FILAMENT STRENGTH SHALL BE A MINIMUM OF 50LBS/FT.
  - SCREEN MATERIAL BREAK STRENGTH SHALL BE A MINIMUM OF 500 LBS/FT.
  - SCREEN SHADE / WIND BLOCKAGE SHALL BE A MINIMUM OF 85%.
  - SCREEN COLOR SHALL BE GREEN OR BLACK.

TEMPORARY CONSTRUCTION FENCE w/ SCREEN  
NOT TO SCALE

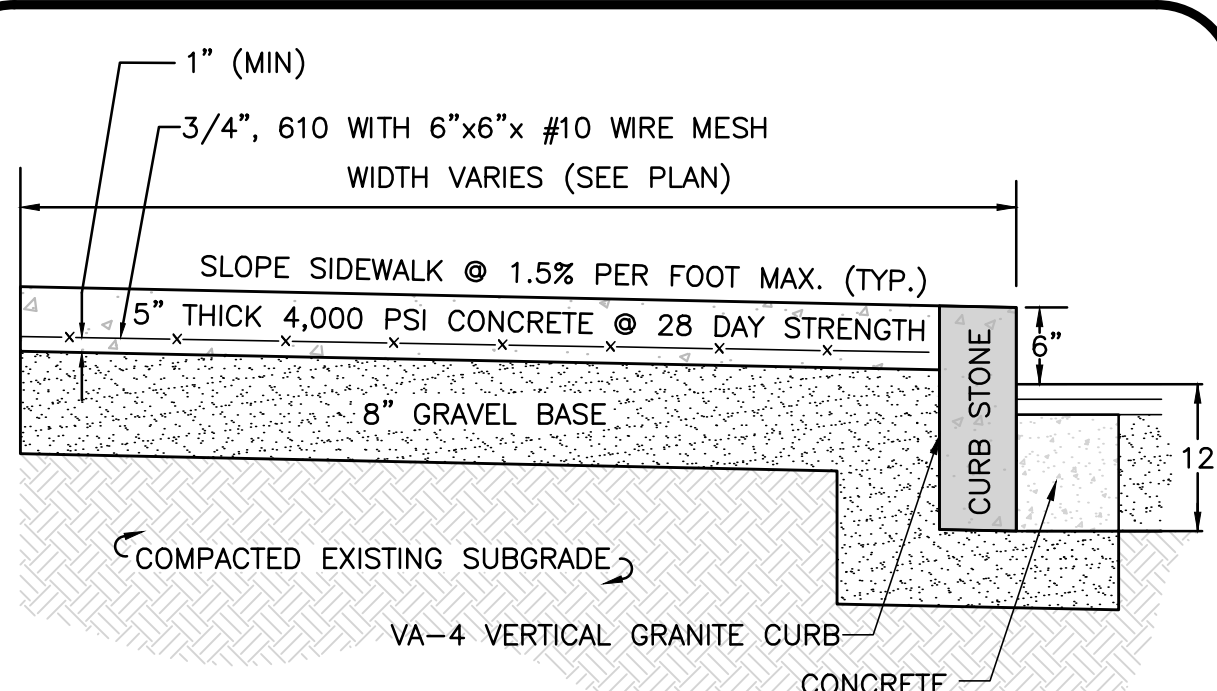


VERTICAL GRANITE CURB  
NOT TO SCALE



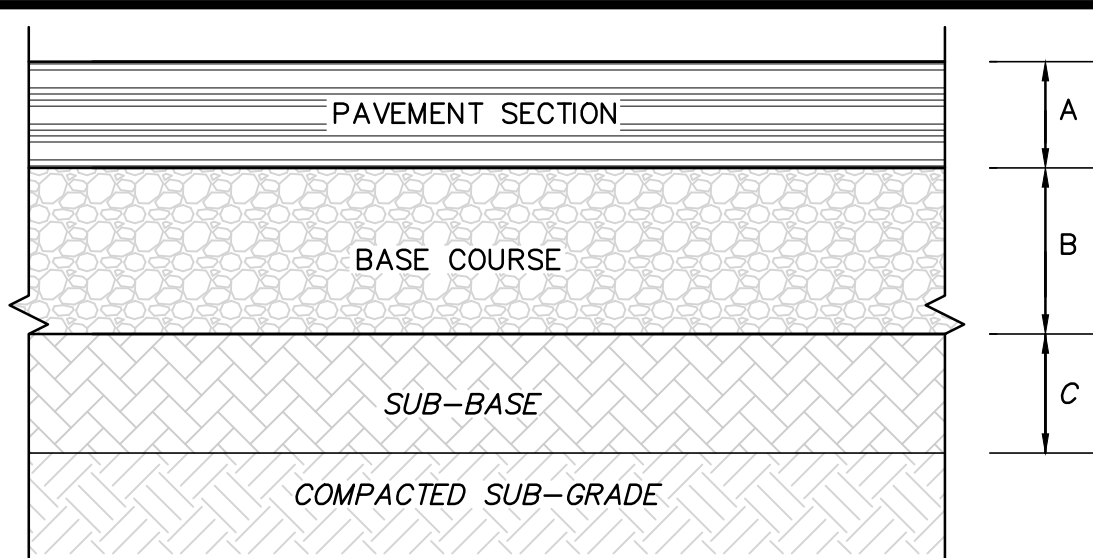
- NOTES:
- SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER WITH PREMOLDED FILLER.
  - SEE PLAN FOR ELEVATIONS AT CURB
  - SIDEWALK CROSS SLOPE TO BE 1.5% MAX & SIDEWALK LONGITUDINAL RUNNING SLOPE TO BE 4.5% MAX, TYP.
  - APPLY BRUSH MARKS PERPENDICULAR TO TRAVEL PATH.

CONCRETE SIDEWALK WITH MONOLITHIC CURB  
NOT TO SCALE



- NOTES:
- SIDEWALK TO HAVE TOOLED JOINTS IN A 5' x 5' (TYP.) GRID WITH EXPANSION JOINTS 15' ON CENTER AND PREMOLDED FILLER.
  - SEE PLAN VIEW FOR ELEVATIONS AT CURB
  - SIDEWALK CROSS SLOPE TO BE 1.5% MAX & SIDEWALK LONGITUDINAL RUNNING SLOPE TO BE 4.5% MAX, TYP.

CONCRETE SIDEWALK WITH VGC CURBSTONE  
NOT TO SCALE



- NOTES:
- PAVEMENT SECTION, BASE COURSE, AND SUBGRADE SHALL BE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. IN THE ABSENCE OF A GEOTECHNICAL ENGINEER'S RECOMMENDATION, THE MATERIALS AND THICKNESS SHALL BE AS SHOWN HEREON.
  - SUBGRADE SHALL BE COMPACTED TO 95% OF PROCTOR
  - EXISTING SUBSURFACE SOILS SHALL BE PROOF-ROLLED.

MATERIALS AND THICKNESSES:

A = 1.5" ASPHALT CONCRETE - SURFACE COURSE (M3.11.0, TABLE A, TOP COURSE)

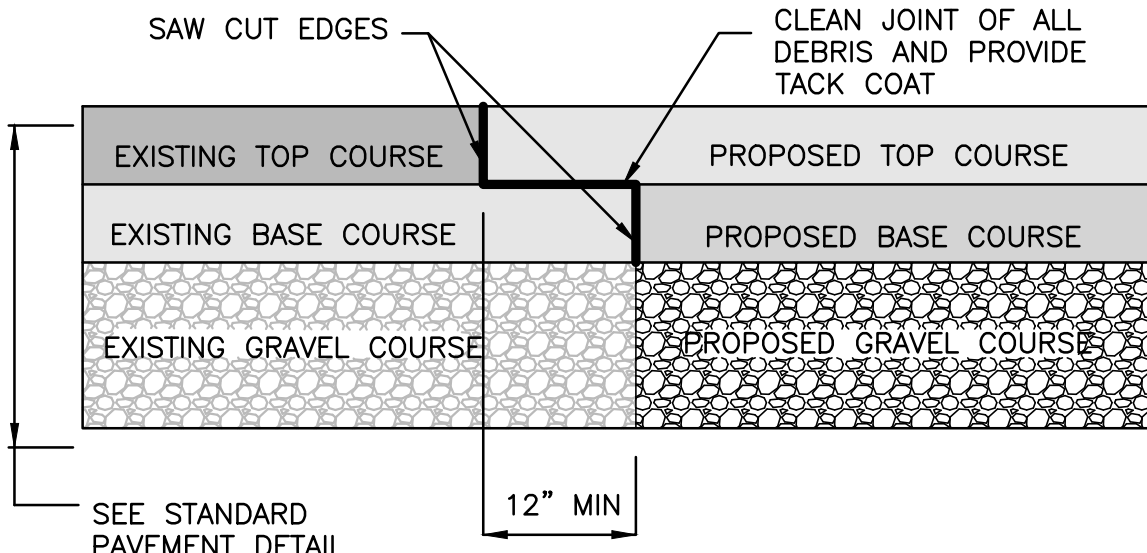
B = 2.5" ASPHALT CONCRETE - BINDER COURSE (M3.11.0, TABLE A, BINDER COURSE)

C = 6" PROCESSED GRAVEL BASE (MHD M2.01.7)

D = 12" BANK RUN GRAVEL MHD M1.03.0 TYPE B)

ASPHALT PAVEMENT SECTION  
NOT TO SCALE

NOTE:  
TACK COAT - PROVIDE EMULSIFIED ASPHALT WHICH CONFORMS TO THE REQUIREMENTS OF THE STATE SPECIFICATIONS, DILUTED WITH ONE PART WATER TO ONE PART ASPHALT FOLLOWING AASHTO M140/ASTM D997, OR AASHTO M208/ASTM D2397, SS-1H, CSS-1, OR CSS-1H.



PAVEMENT KEY CUT DETAIL  
NOT TO SCALE



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION

APPLICANT/OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO. 2729-01 DATE: 04-10-20

SCALE: AS SHOWN DWG. NAME: C2729-01

DESIGNED BY: ARM CHECKED BY: BDJ/RC

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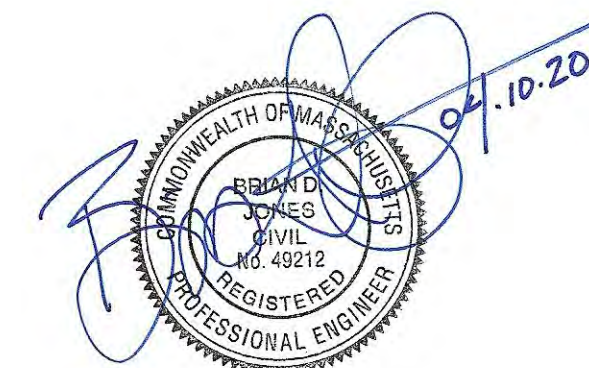
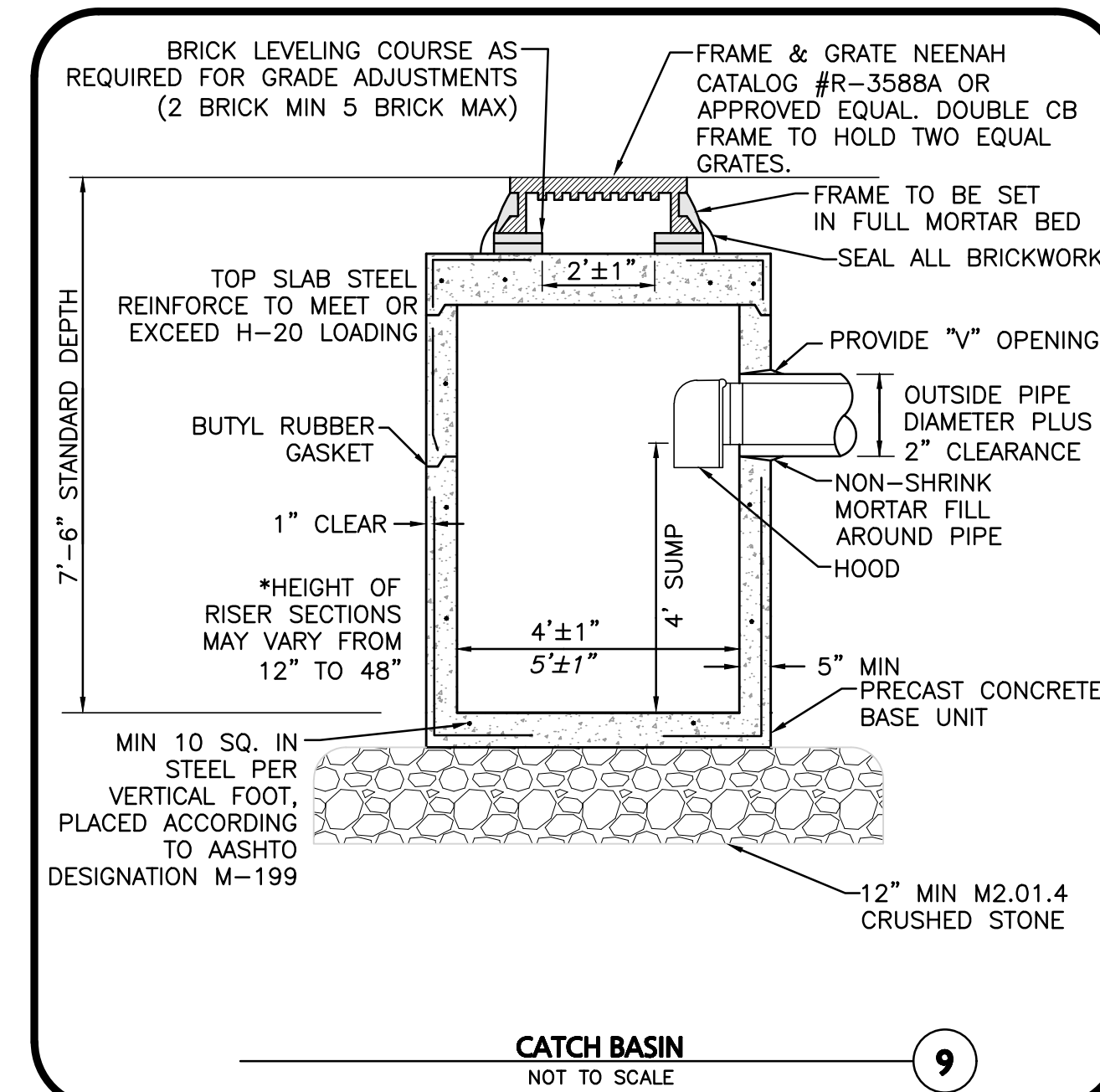
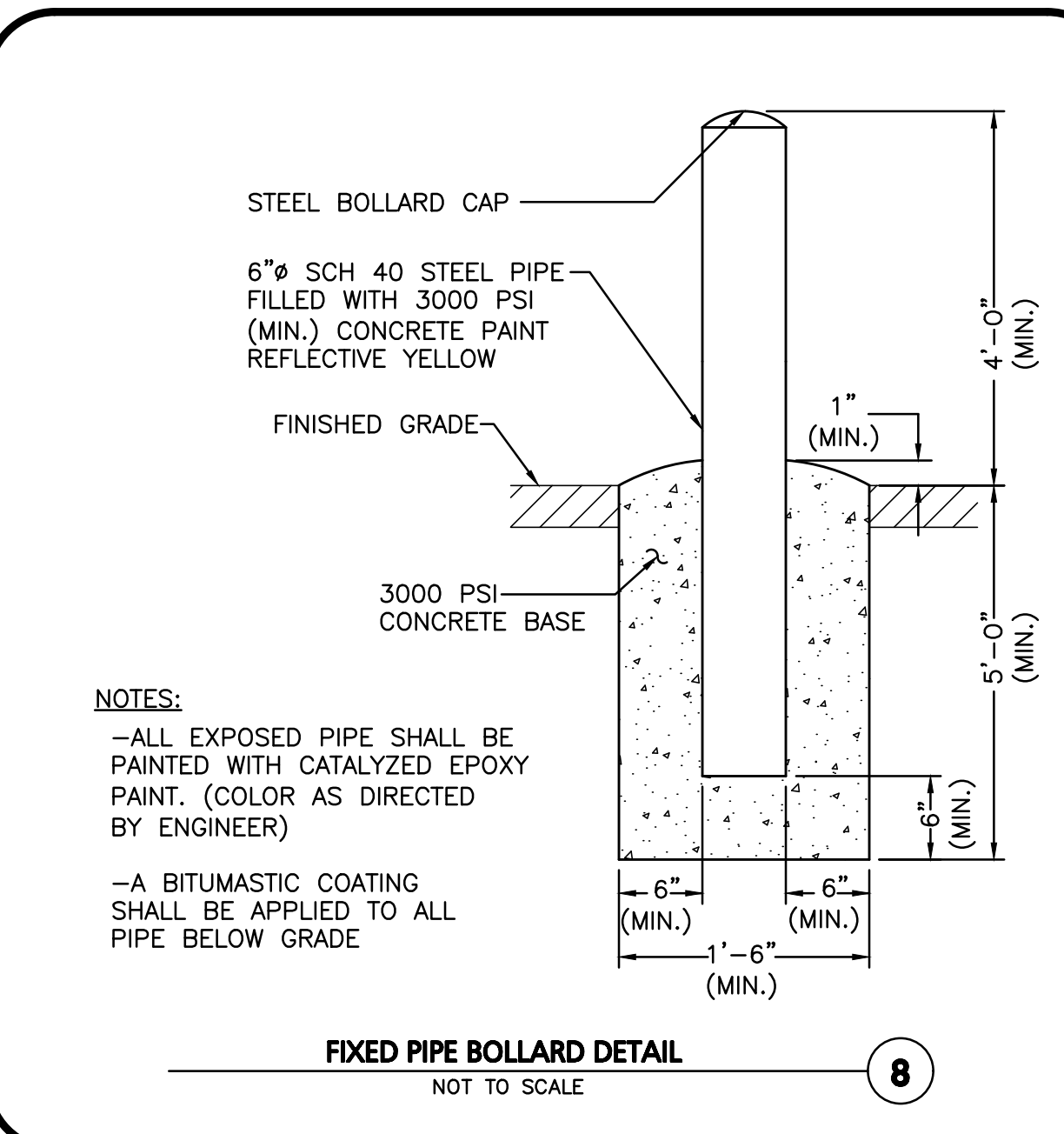
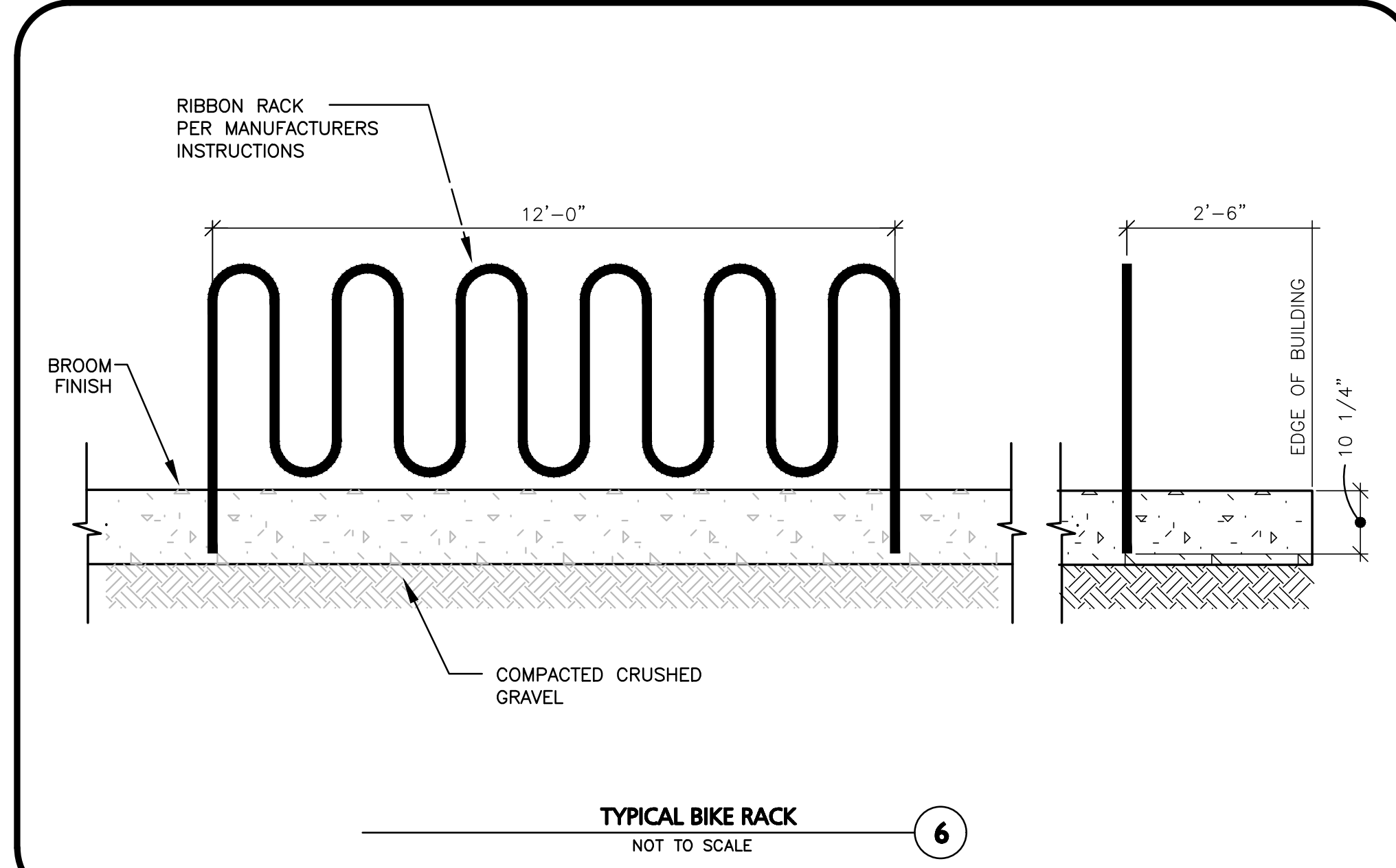
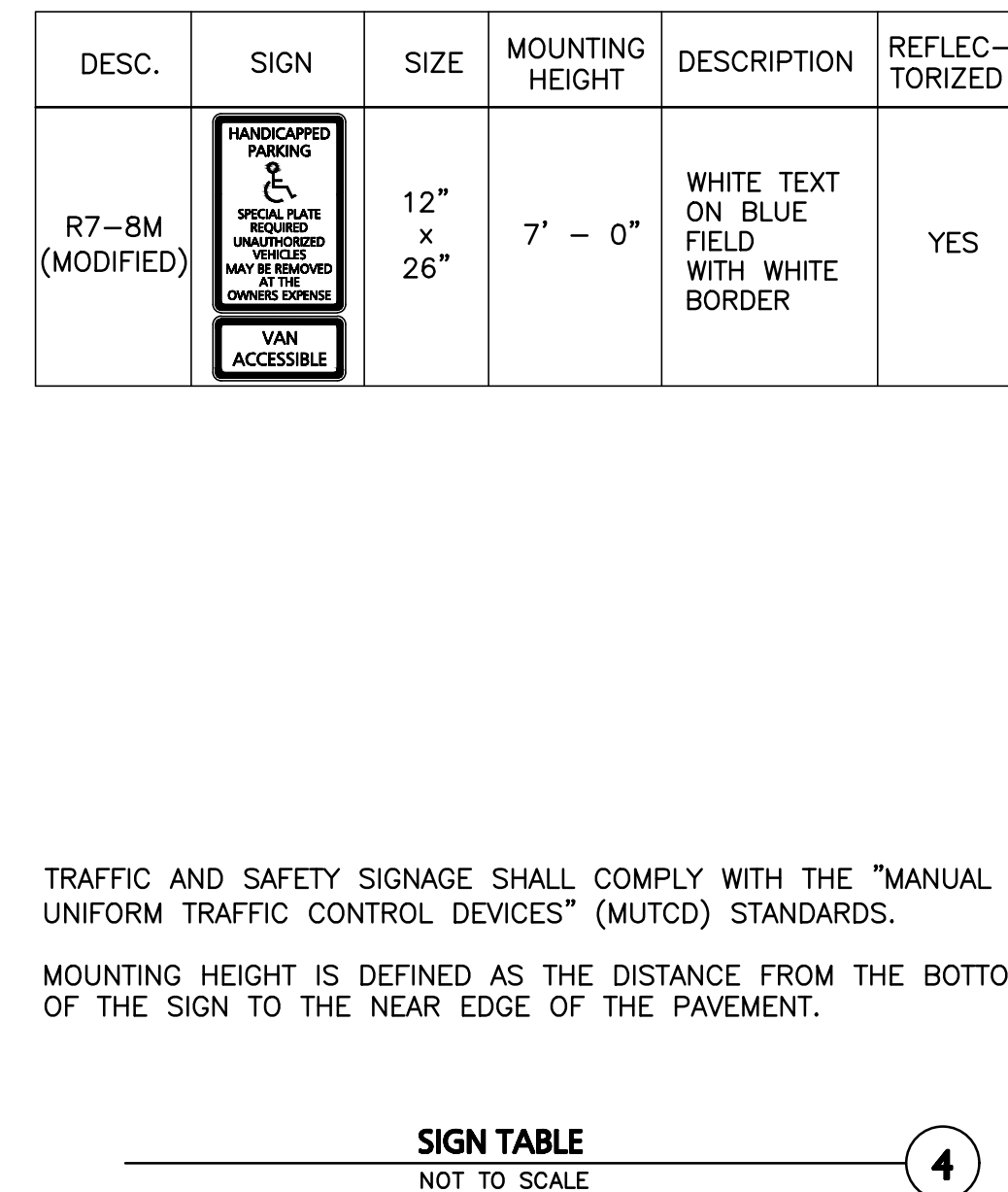
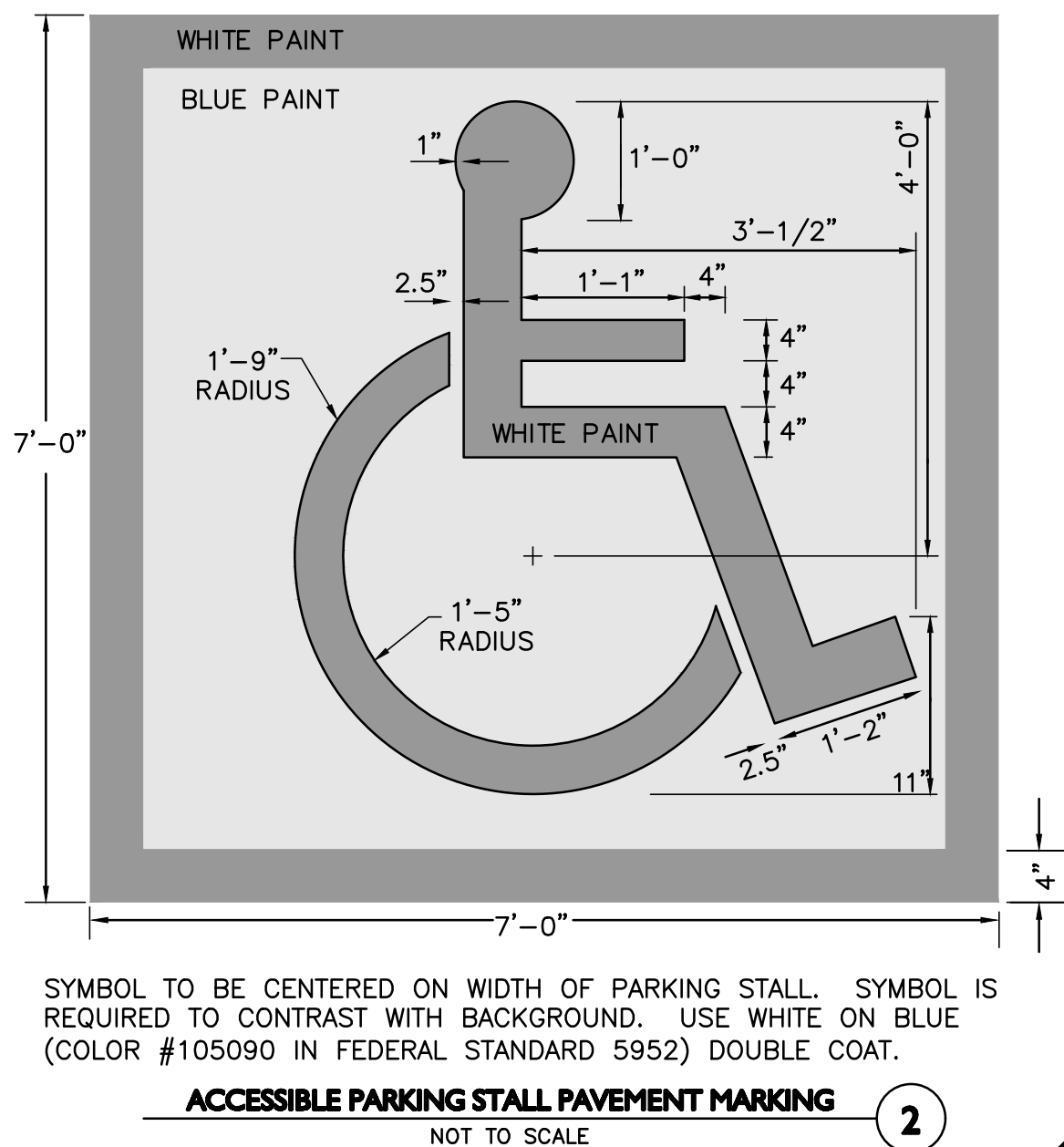
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DRAWING TITLE: SHEET No.

DETAILS C-501





PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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APPLICANT\OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
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SCALE:	AS SHOWN	DWG. NAME:	C2729-01
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DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC
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PREPARED BY:



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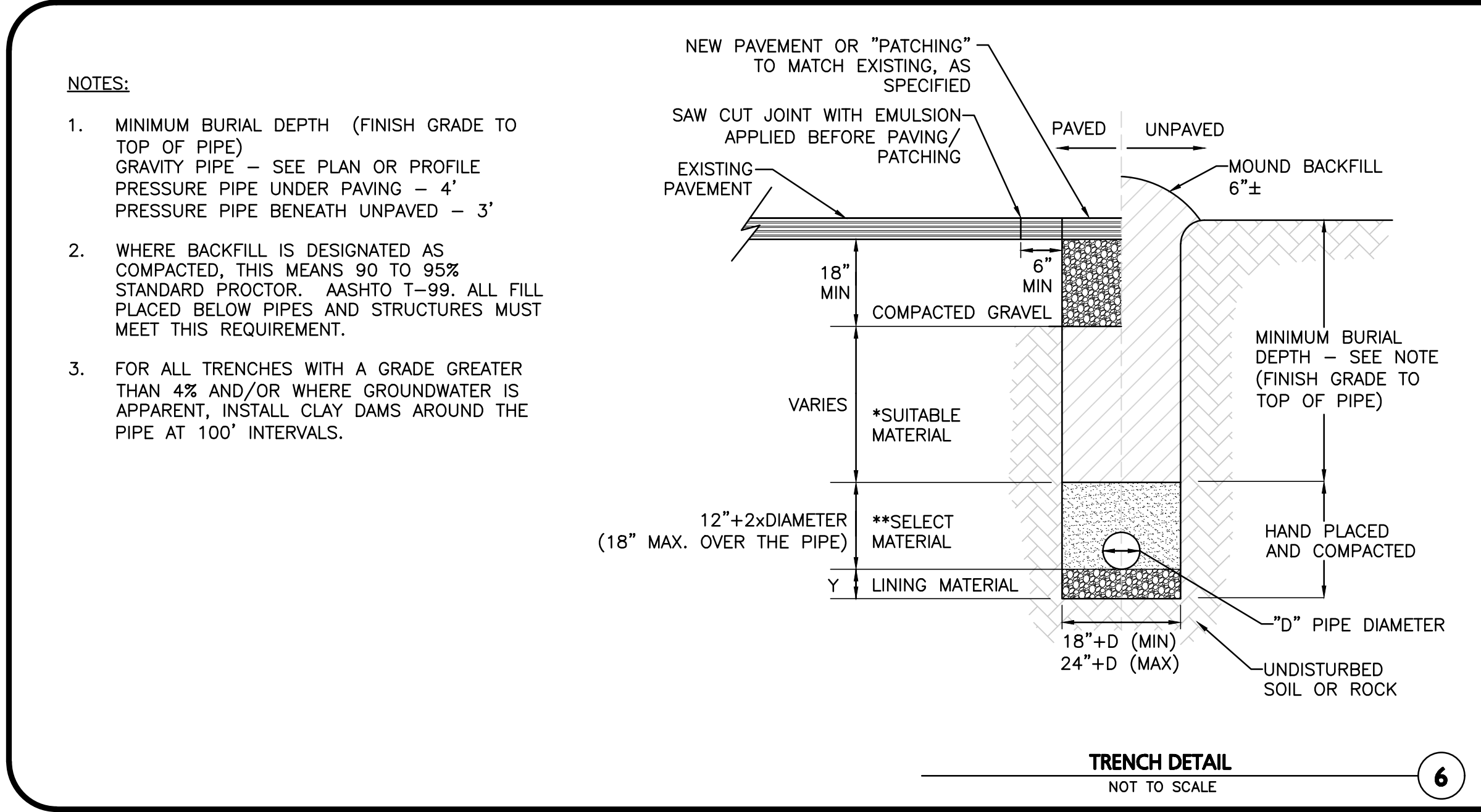
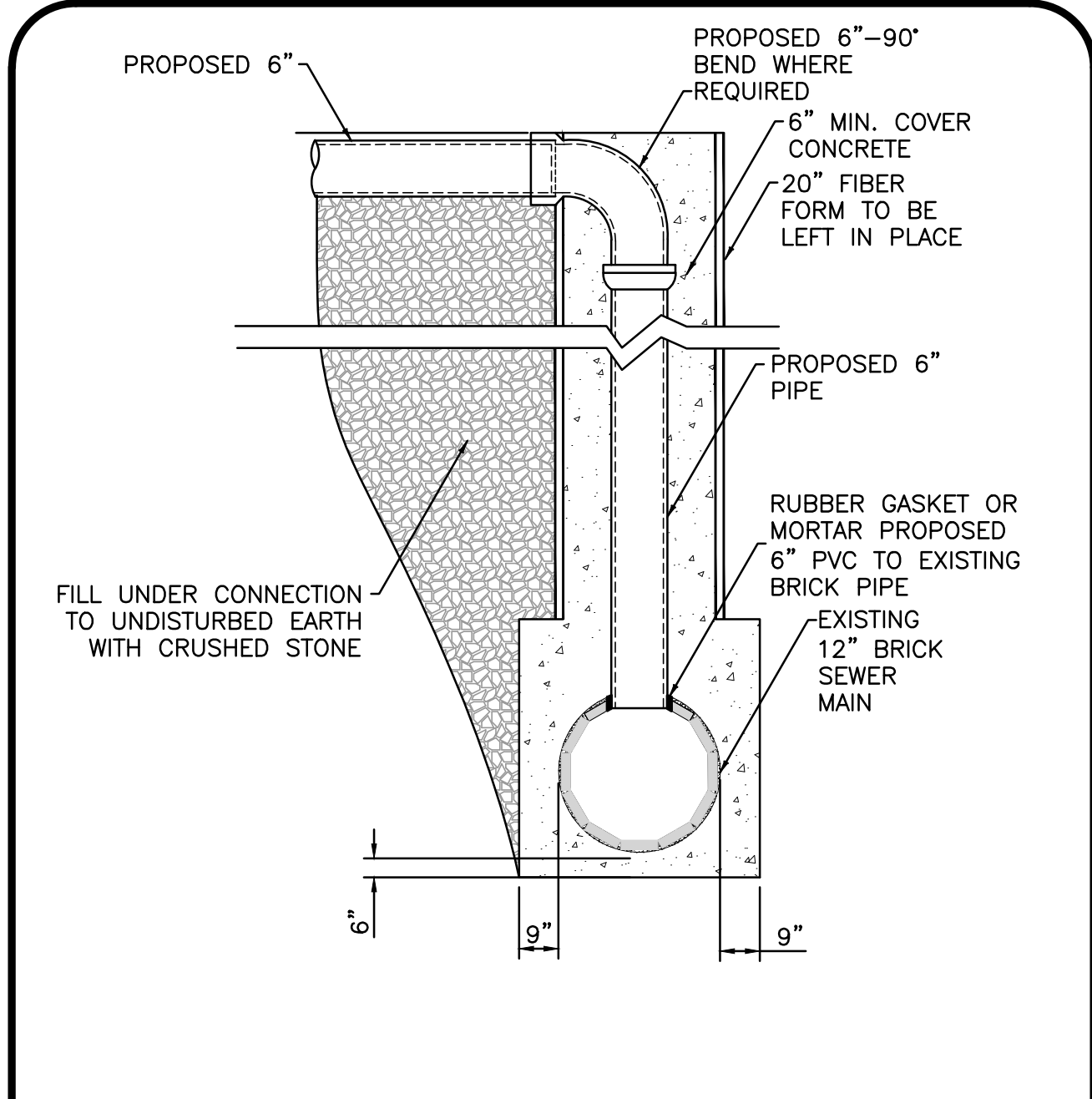
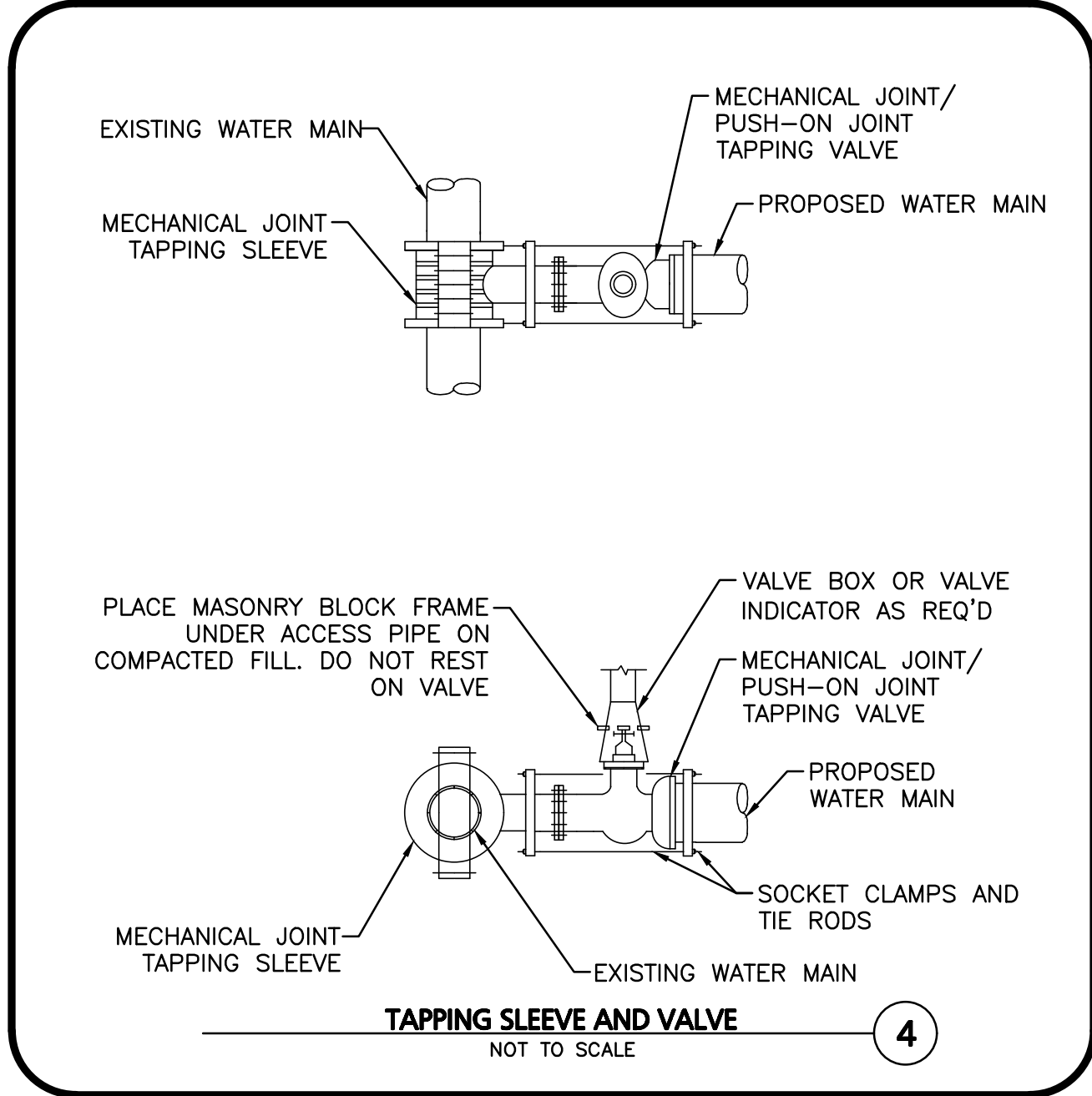
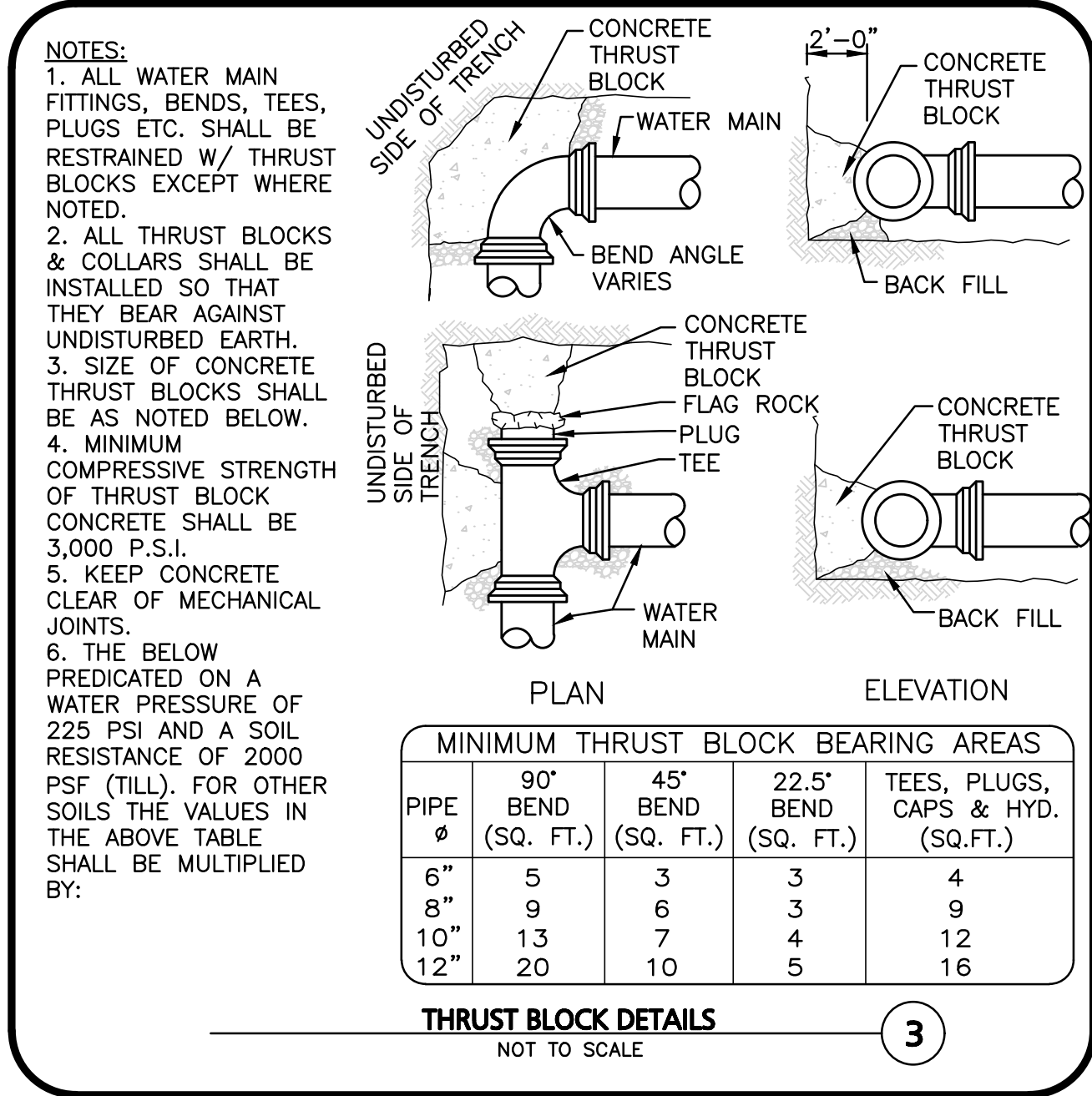
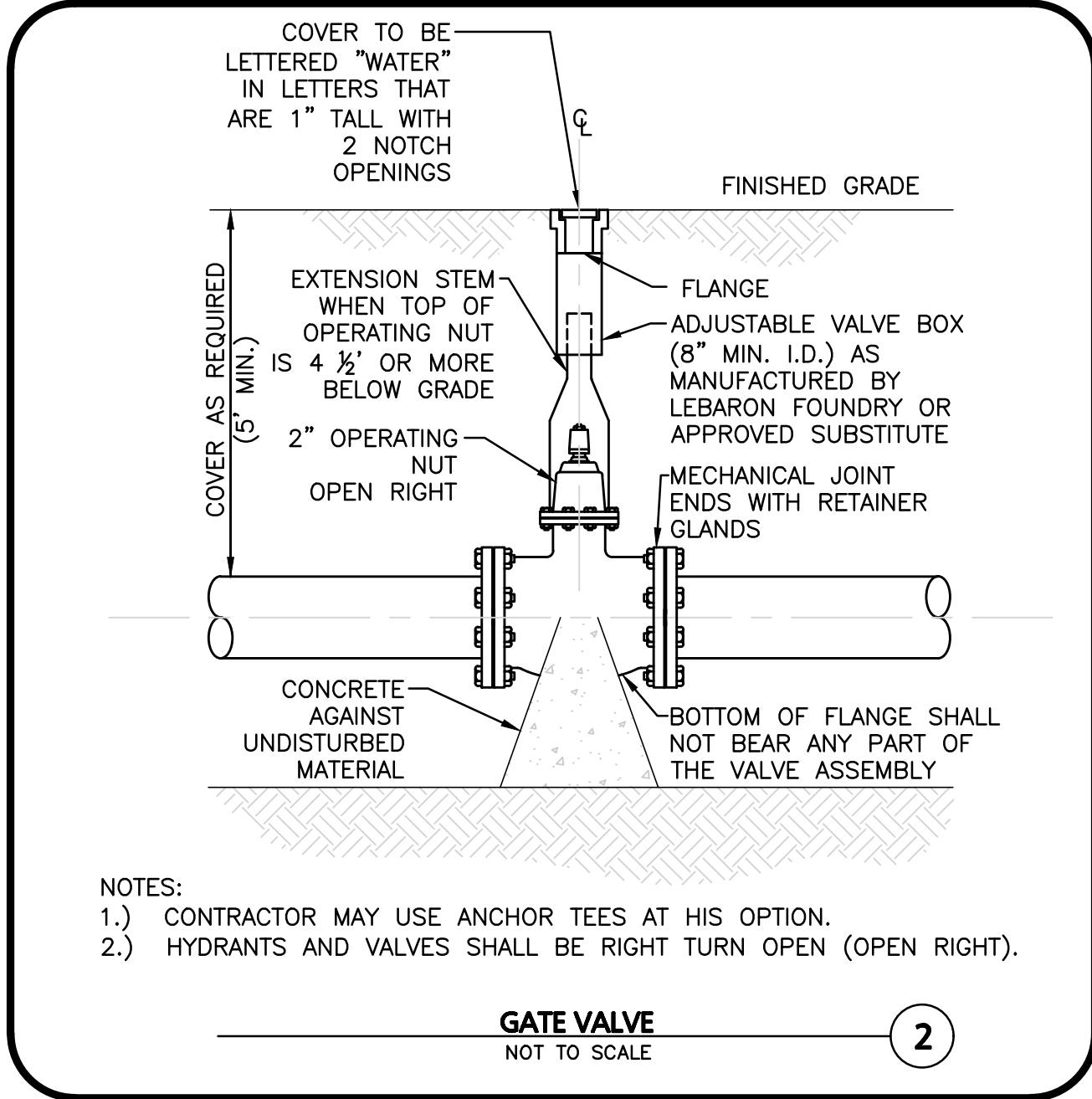
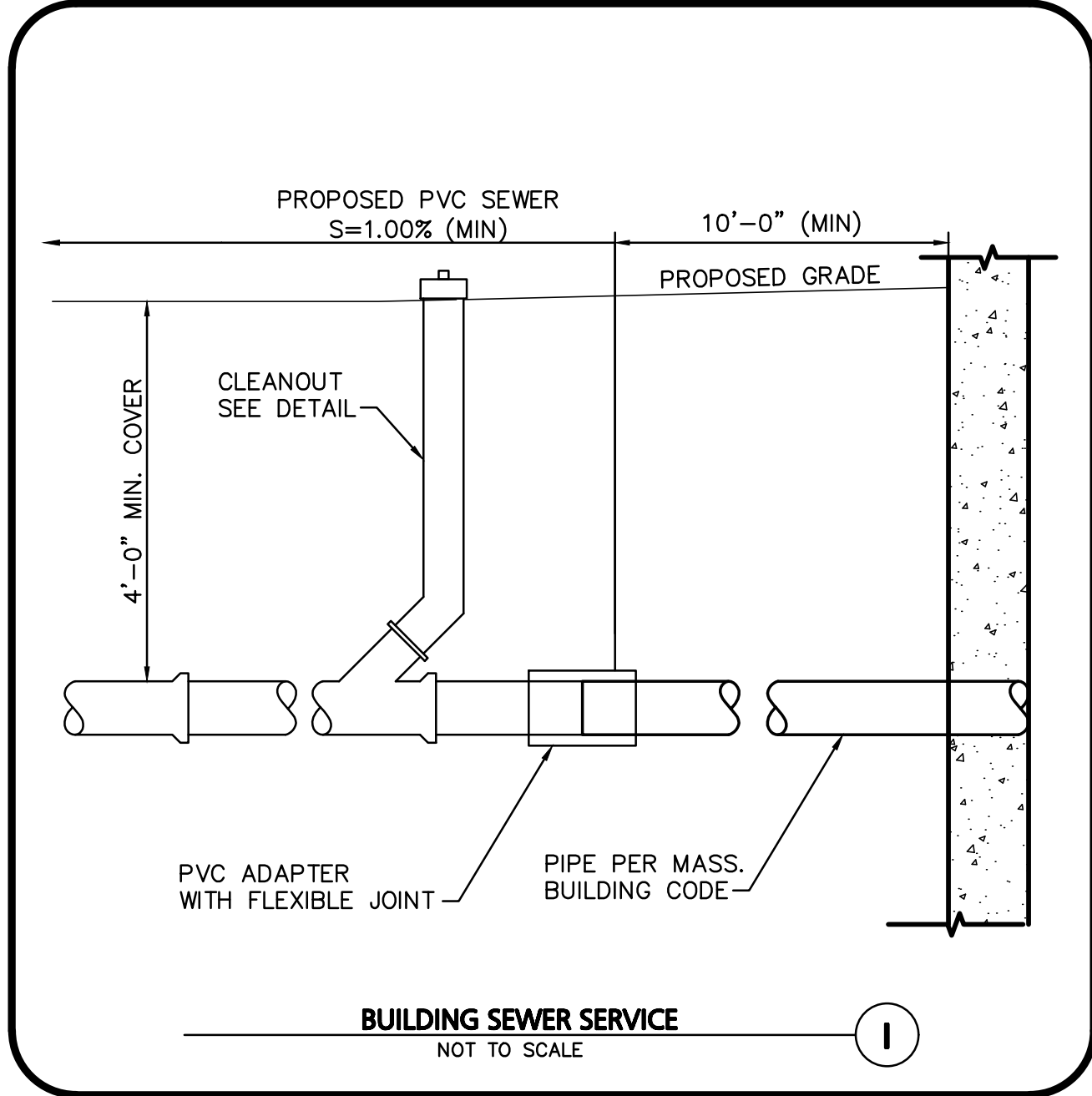
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SHEET No.	
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## DETAILS

C-502





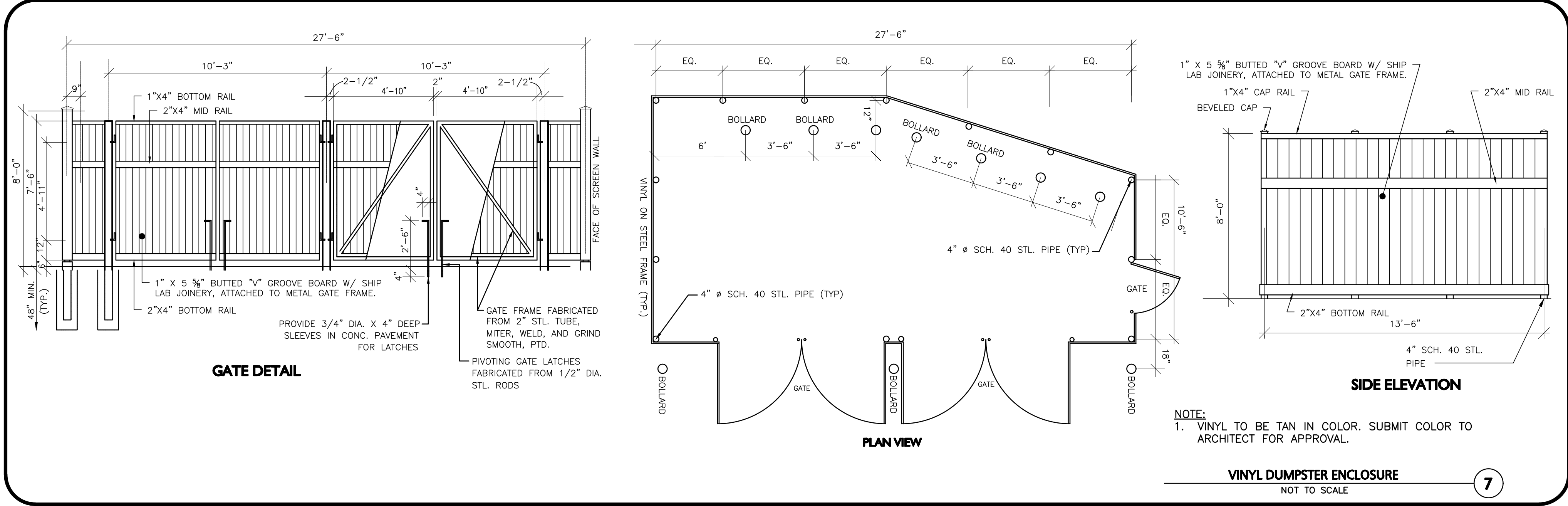
CONDITION & PIPE	**SELECT MATERIAL	LINING MATERIAL	Y-DIMENSION
DUCTILE IRON "ORDINARY SOIL"	TYPE I, II, OR III	SAND OR TYPE III	3"
RCP "ORDINARY SOIL"	TYPE II OR III	SAND OR TYPE III	3"
ALL PIPE OVER BEDROCK OR LEDGE	TYPE II OR III	SAND OR TYPE III	8"
DUCTILE IRON IN CLAY OR MUCK	TYPE II OR III	SAND	4"
RCP IN CLAY	TYPE II OR III	SAND	8"
ALL PLASTICS	TYPE III	SAND OR TYPE III	6"

\* SUITABLE MATERIAL SHALL CONTAIN NO STONE GREATER THAN 4" IN DIAMETER, NO FROZEN LUMPS, AND ONLY MINOR AMOUNTS OF CLAY OR ORGANIC MATERIAL. ALL MATERIAL TO BE PLACED IN MAX 12" LIFTS AND COMPACTED BEFORE PLACING NEXT LIFT.

\*\*TYPE I MATERIAL SHALL BE EITHER GRAVEL OR EXCAVATED MATERIAL CONTAINING NO STONES GREATER THAN 1.5" DIAMETER, NO FROZEN LUMPS, CLAY OR ORGANIC MATERIAL.

\*\*TYPE II MATERIAL SHALL BE CLEAN, HARD, CRUSHED OR NATURAL STONE WITH A GRADATION BY WEIGHT OF 100% PASSING A 1.5" SQUARE OPENING, NOT MORE THAN 25% PASSING A 3/4" OPENING, AND NOT MORE THAN 5% PASSING A 1/2" SQUARE OPENING.

\*\*TYPE III MATERIAL SHALL BE CLEAN, HARD, CRUSHED STONE FREE FROM COATINGS AND THOROUGHLY WASHED WITH A GRADATION BY WEIGHT OF 100% PASSING A 1" SQUARE OPENING, AND 0 TO 5% PASSING A 1/2" SQUARE OPENING.



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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APPLICANT/OWNER:  
882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
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SCALE:	AS SHOWN	DWG. NAME:	C272901
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DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC
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PREPARED BY:

**ALLEN & MAJOR ASSOCIATES, INC.**  
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environmental consulting • landscape architecture  
www.allenmajor.com  
100 COMMERCE WAY, SUITE 5  
WOBURN MA 01801  
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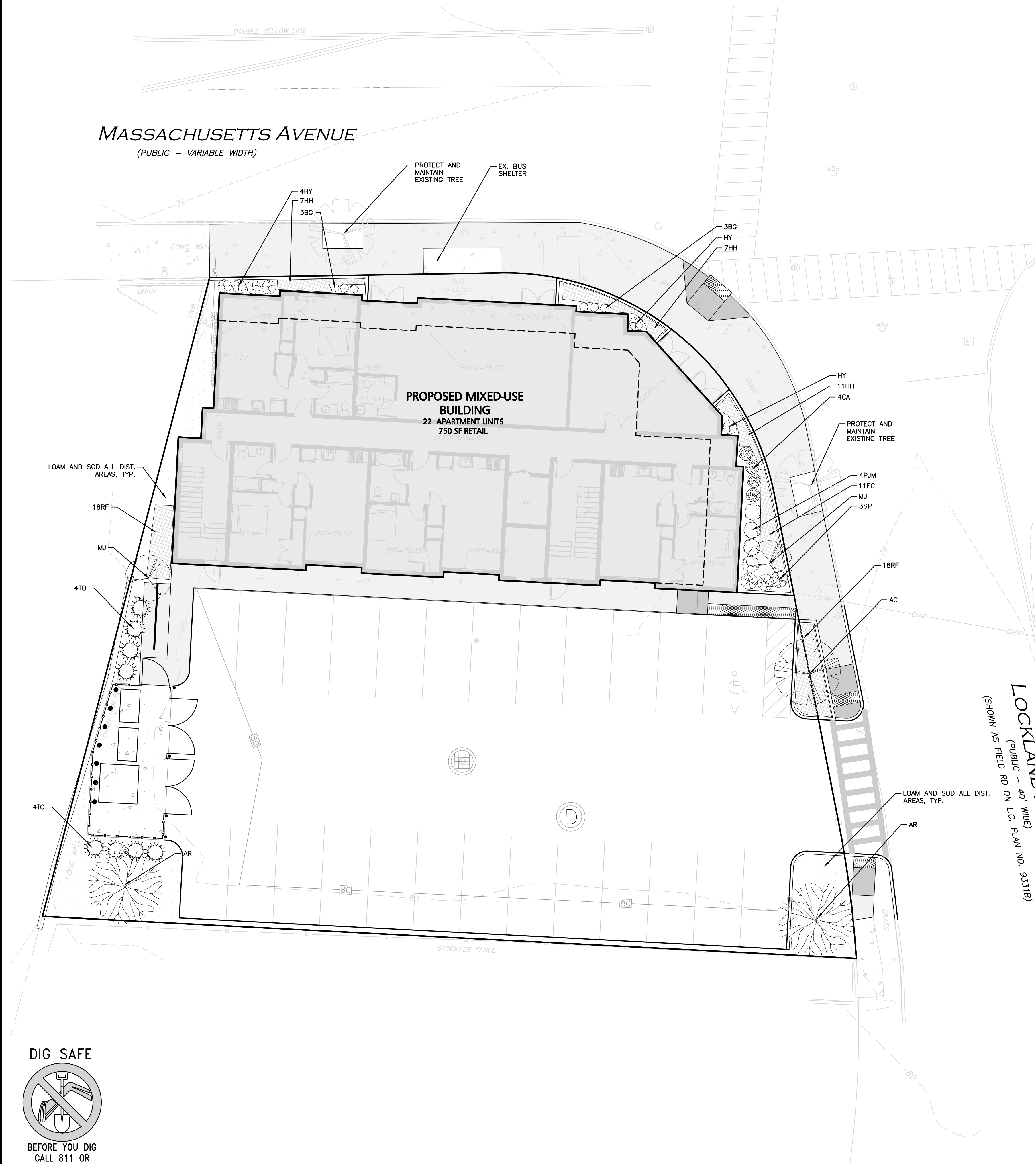
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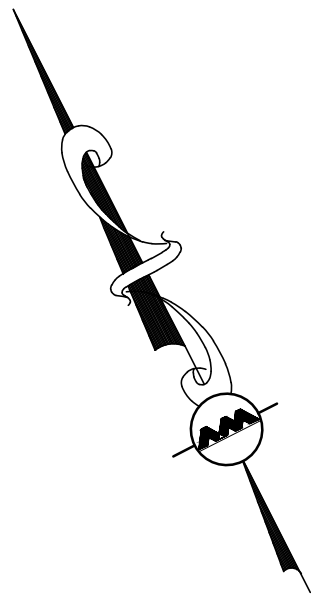
DETAILS	C-503
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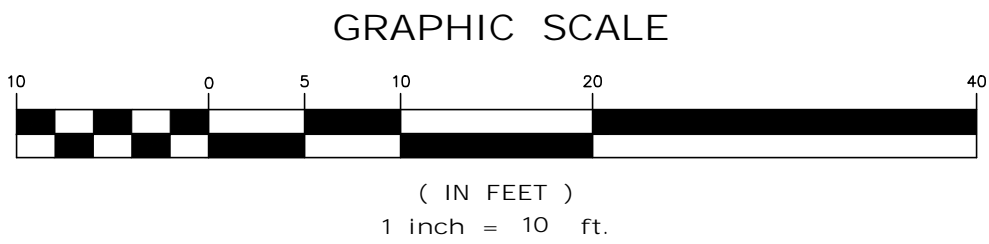


LEGEND	
DECIDUOUS TREE	
EVERGREEN TREE	
FLOWERING TREE	
SHRUBS	
MULCH BED	
PERENNIALS/GROUNDCOVER	
WILDFLOWER SEED MIX	
EROSION CONTROL SEED MIX	



PLANTING SCHEDULE-TREES, SHRUBS, GROUNDCOVERS & PERENNIALS

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENTS
EVERGREEN TREES						
TO	6	THUJA O. 'WINTERGREEN'	WINTERGREEN ARBORVITAE	6-7' HT	AS SHOWN	B&B
FLOWERING TREES						
AC	1	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	2.5-3" CAL.	AS SHOWN	B&B
AR	2	ACER RUBRUM 'BOWHALL'	BOWHALL RED MAPLE	2.5-3" CAL.	AS SHOWN	B&B
MJ	2	MAGNOLIA LILIFLORA 'JANE'	JANE MAGNOLIA	5-6' HT.	AS SHOWN	B&B
SHRUBS						
CA	4	CORNUS ALBA 'IVORY HALO'	IVORY HALO DOGWOOD	#3	AS SHOWN	POT
BG	6	BUXUS 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	#2	AS SHOWN	POT
HY	6	HYDRANGEA ARBORESCENS 'INCREDIBALL'	INCREDIBALL HYDRANGEA	#5	AS SHOWN	POT
PJM	4	RHODODENDRON 'PJM COMPACT CLONE'	COMPACT PJM RHODODENDRON	#3	AS SHOWN	B&B
SP	3	SYRINGA PATULA 'MISS KIM'	MISS KIM LILAC	#5	AS SHOWN	POT
PERENNIALS						
EC	13	ECHINACEA PURPUREA 'KIMS KNEEHIGH'	KIMS KNEEHIGH CONEFLOWER	#1	24" O.C.	STAGGERED
HH	29	HOSTA 'HADSPEN BLUE'	HADSPEN BLUE HOSTA	#1	24" O.C.	STAGGERED
RF	41	RUDBECKIA FULGIDA 'CITY GARDEN'	CITY GARDEN BLACK EYED SUSAN	#1	24" O.C.	STAGGERED



REGISTERED LANDSCAPE ARCHITECT FOR  
ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT/OWNER:  
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452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO. 2729-01 DATE: 04-10-20

SCALE: 1" = 10' DWG. NAME: C2729-01

DESIGNED BY: BCD CHECKED BY: BDJ/RC

PREPARED BY:



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DRAWING TITLE: LANDSCAPE PLAN SHEET No. L-101



LOAM AND SODDING NOTES

CONTRACTOR SHALL SOD AREAS NOTED ON THE PLANS.

SOD IS TO BE A BLEND OF FOUR TO FIVE CURRENT AND IMPROVED HYBRID BLUEGRASS AND FESCUE MIXES APPROPRIATE FOR BOTH SEMI-SHADED AND AREAS OF SUN.

HYBRIDS MAY INCLUDE: BLACKSTONE KENTUCKY BLUEGRASS, AWARD KENTUCKY BLUEGRASS, CHALLENGER KENTUCKY BLUEGRASS, BLACKBURG II KENTUCKY BLUEGRASS OR COMPARABLE AND EQUAL BLUEGRASS HYBRIDS.

1. SOD SHALL BE HIGH QUALITY, NURSERY GROWN ON CULTIVATED MINERAL AGRICULTURAL SOILS. SOD SHALL BE MOIST, AND MACHINE CUT AT A UNIFORM SOIL THICKNESS OF AT LEAST ¾" AT TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL INCLUDE TOP GROWTH AND THATCH. SOD SHALL BE FREE OF DISEASES, WEEDS, BARE SPOTS, OR INSECTS.

2. SODDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RE-SODDING OF BARE SPOTS. IF UNABLE TO SOD WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SODDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.

3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIC SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.

4. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RE-SODDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

LANDSCAPE NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF ARLINGTON, MA.

2. PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF ANY CONFLICTS IN WRITING.

4. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.

5. ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.

6. CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.

7. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.

8. ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

9. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.

LANDSCAPE NOTES CONT.

10. ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED LAWNS WITH 3:1 OR GREATER SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.

11. ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING.

12. TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.

13. ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH

14. ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.

15. ALL TREE STAKES SHALL BE STAINED DARK BROWN.

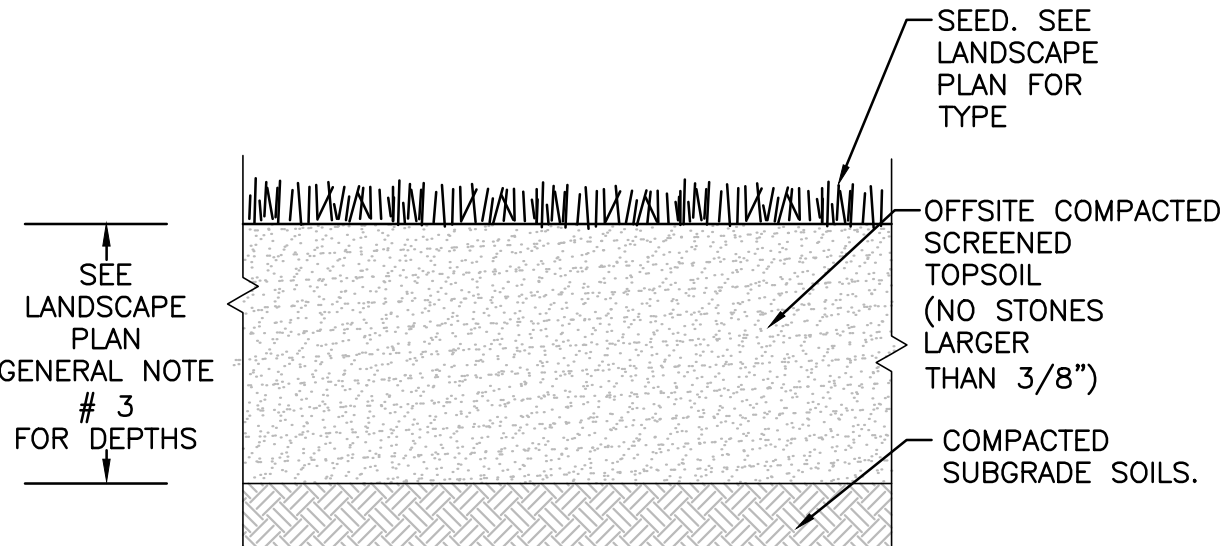
16. CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.

17. ALL PARKING ISLANDS PLANTED WITH SHRUBS SHALL HAVE 24" OF TOP SOIL. FINISH GRADE SHALL BE EQUAL TO THE TOP OF CURB.

18. SOIL SAMPLES, TESTS, AND SHOP DRAWINGS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT OR THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.

19. AN MINIMUM 18" WIDE BARRIER OF 1" GRAY OR TAN PEASTONE SHALL BE INSTALLED IN ALL PLANT BEDS WHICH ABUT THE BUILDINGS. NO MULCH IS ALLOWED WITHIN 18" OF ALL BUILDINGS PER THE LATEST EXECUTIVE OFFICE OF PUBLIC SAFETY AND SECURITY DEPARTMENT OF FIRE SERVICES REGULATION (527 CMR 17.00). INSTALL 6" DEEP OF PEASTONE WITH MIRAFI WEED FABRIC BENEATH AND STEEL EDGING BETWEEN THE PEASTONE AND ADJACENT MULCH BED.

20. ALL PROPOSED LANDSCAPE AREAS INCLUDING MOWED LAWNS, TREES, SHRUB BEDS, AND PERENNIALS SHALL BE PROVIDED WITH WATER EFFICIENT UNDERGROUND IRRIGATION. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT. IRRIGATION SYSTEM IS TO BE DESIGNED FOR EFFICIENT WATER USAGE INCLUDING: USE OF DRIP IRRIGATION FOR SHRUBS AND PERENNIALS, IRRIGATION SYSTEM WITH HEAD-TO-HEAD COVERAGE, A CENTRAL SHUT-OFF VALVE, AND A RAIN SENSOR TO SHUT OFF IRRIGATION DURING RAIN EVENTS.



TEXTURE CLASS	% OF TOTAL WEIGHT
SAND	45% - 65%
SILT	15% - 35%
CLAY	5% - 20%

SIEVE	% PASSING
3/8"	100
NO. 4	85-100
NO. 40	60-85
NO. 100	38-60
NO. 200	10-35
20 um	LESS THAN 5%

NOTES:

1. TOP OF LOAM (TOPSOIL) IS FINISH GRADE.

2. ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLOUDS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEIOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.

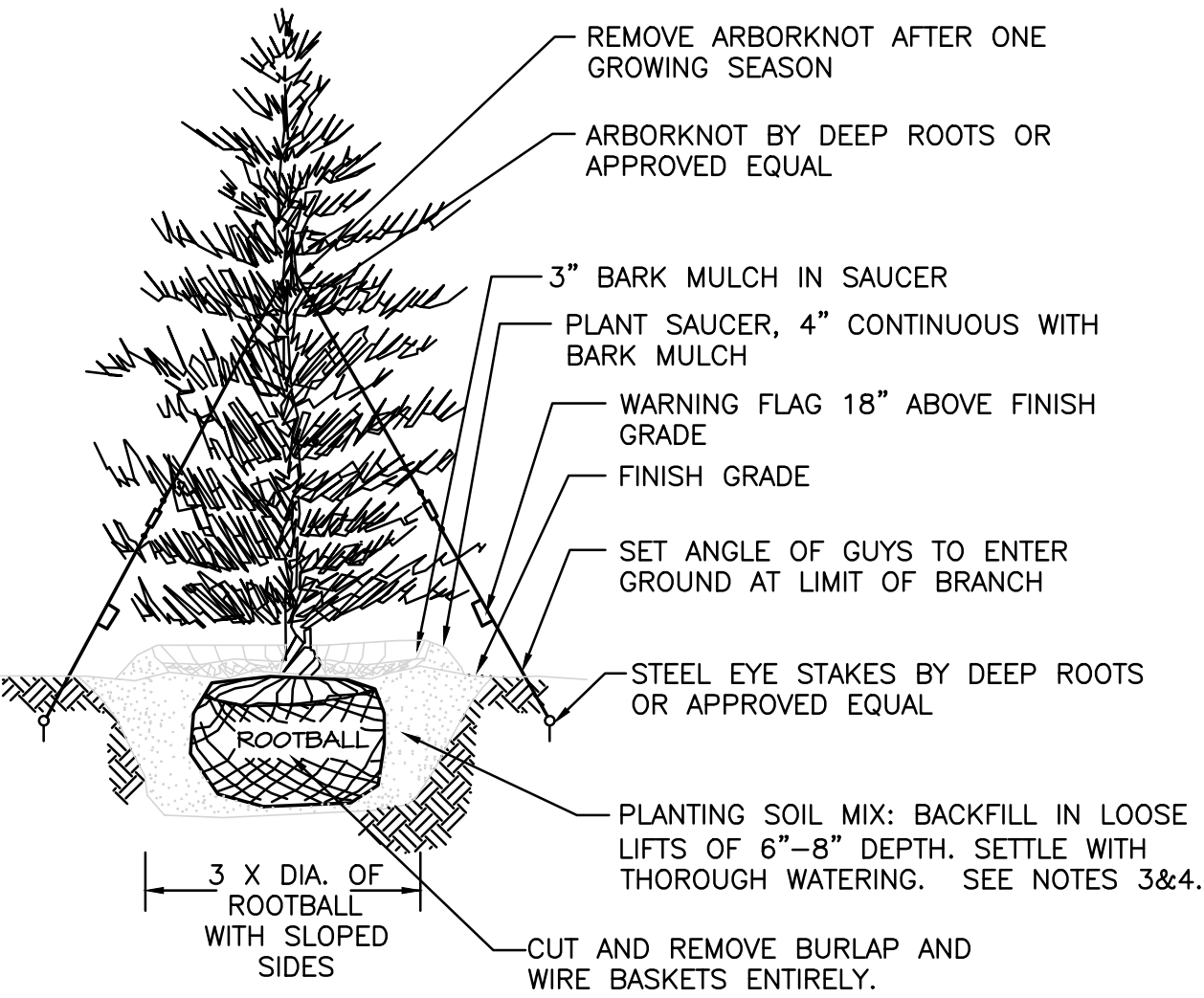
3. THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UMASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.

4. TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN BETWEEN 4% AND 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.

TOPSOIL FOR LAWN, TREES, SHRUBS, & PERENNIALS

NOT TO SCALE

2



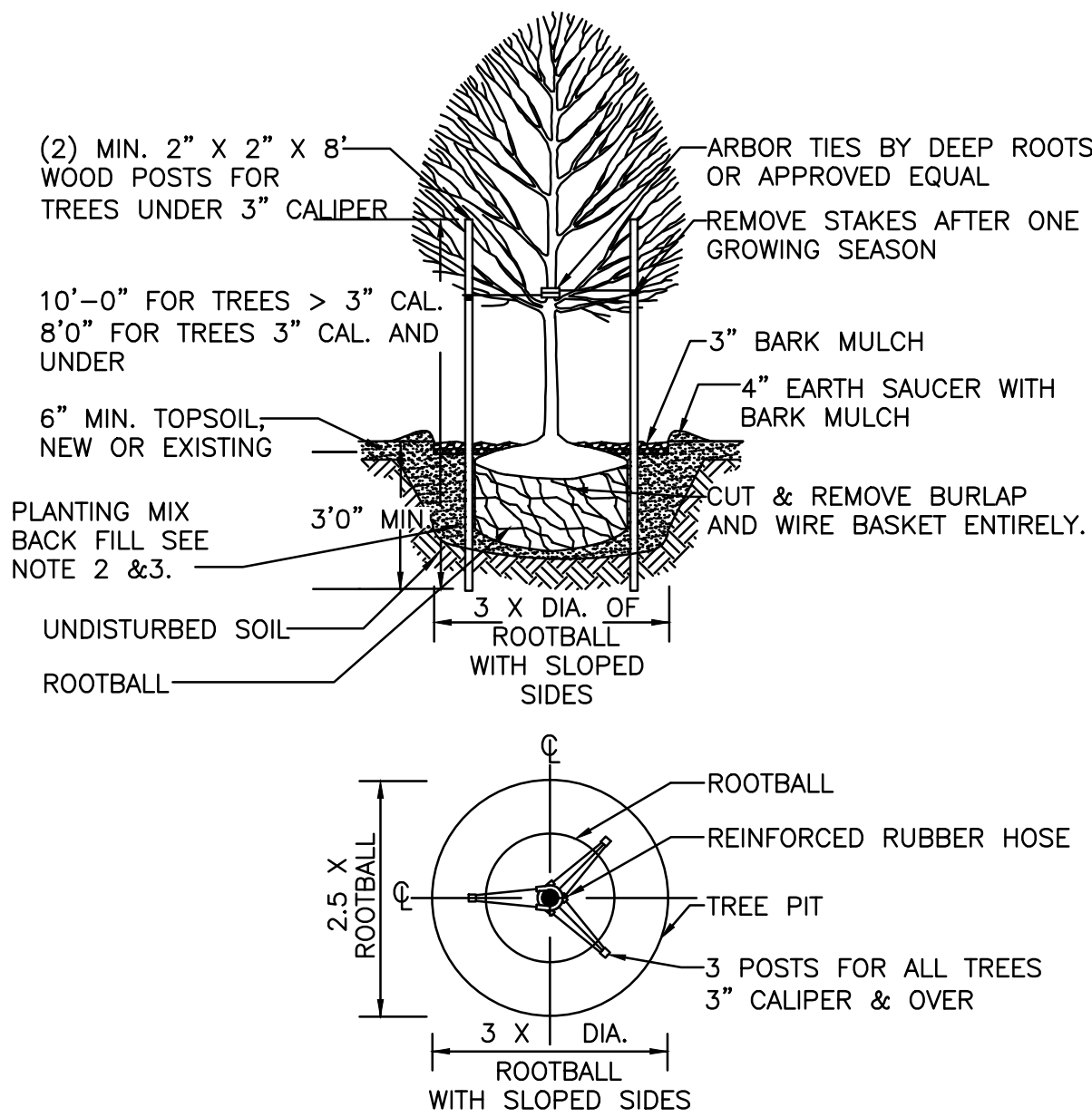
EVERGREEN TREE DETAIL

NOT TO SCALE

1

NOTES

1. TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
2. INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
3. ATTACH GUYS AT 2/3 HEIGHT OF TREE.
4. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
5. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.



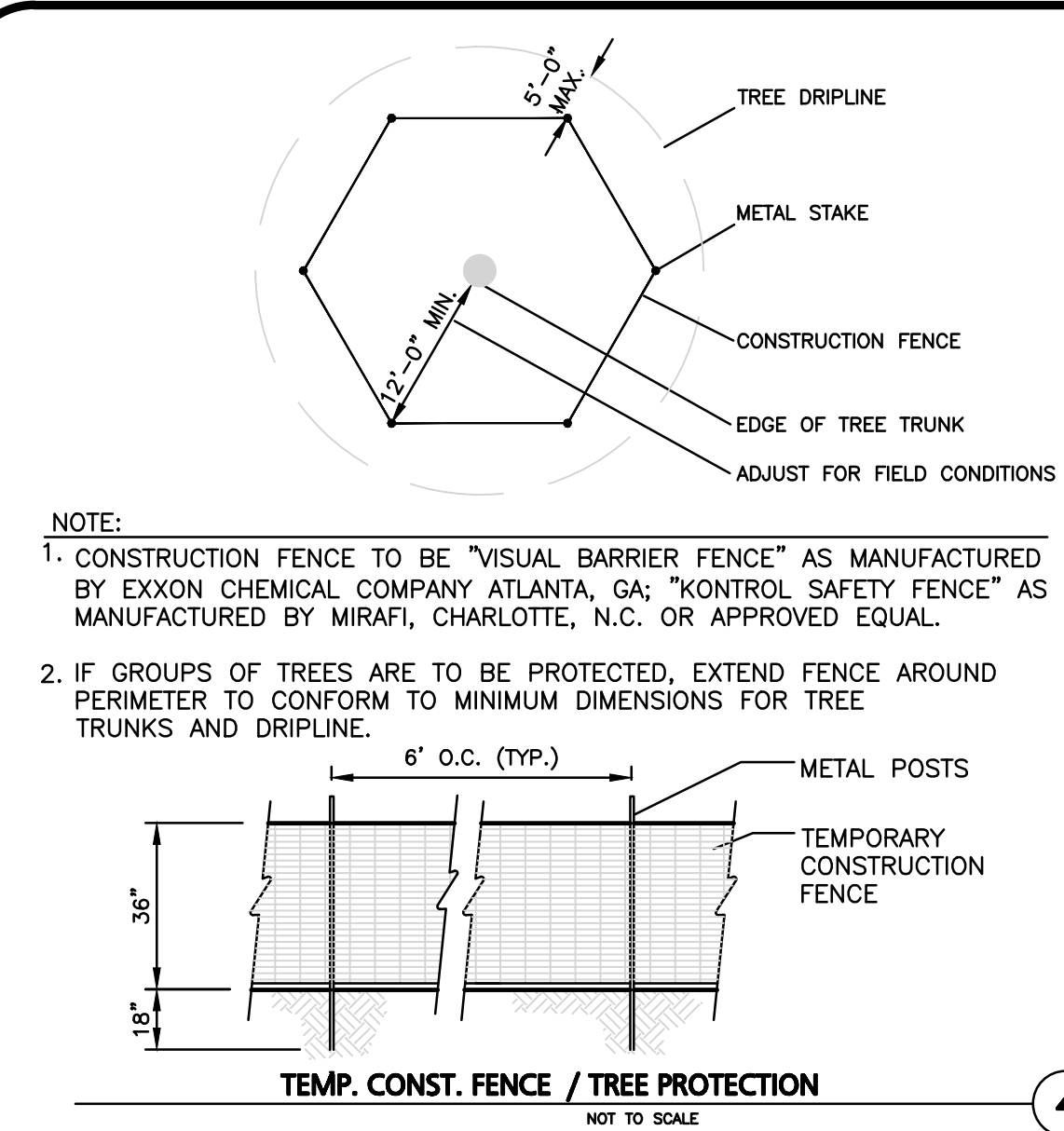
DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

3

NOTES:

1. ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.



NOTE:

1. CONSTRUCTION FENCE TO BE "VISUAL BARRIER FENCE" AS MANUFACTURED BY EXXON CHEMICAL COMPANY ATLANTA, GA; "KONTROL SAFETY FENCE" AS MANUFACTURED BY MIRAFI, CHARLOTTE, N.C. OR APPROVED EQUAL.
2. IF GROUPS OF TREES ARE TO BE PROTECTED, EXTEND FENCE AROUND PERIMETER TO CONFORM TO MINIMUM DIMENSIONS FOR TREE TRUNKS AND DRIPLINE.

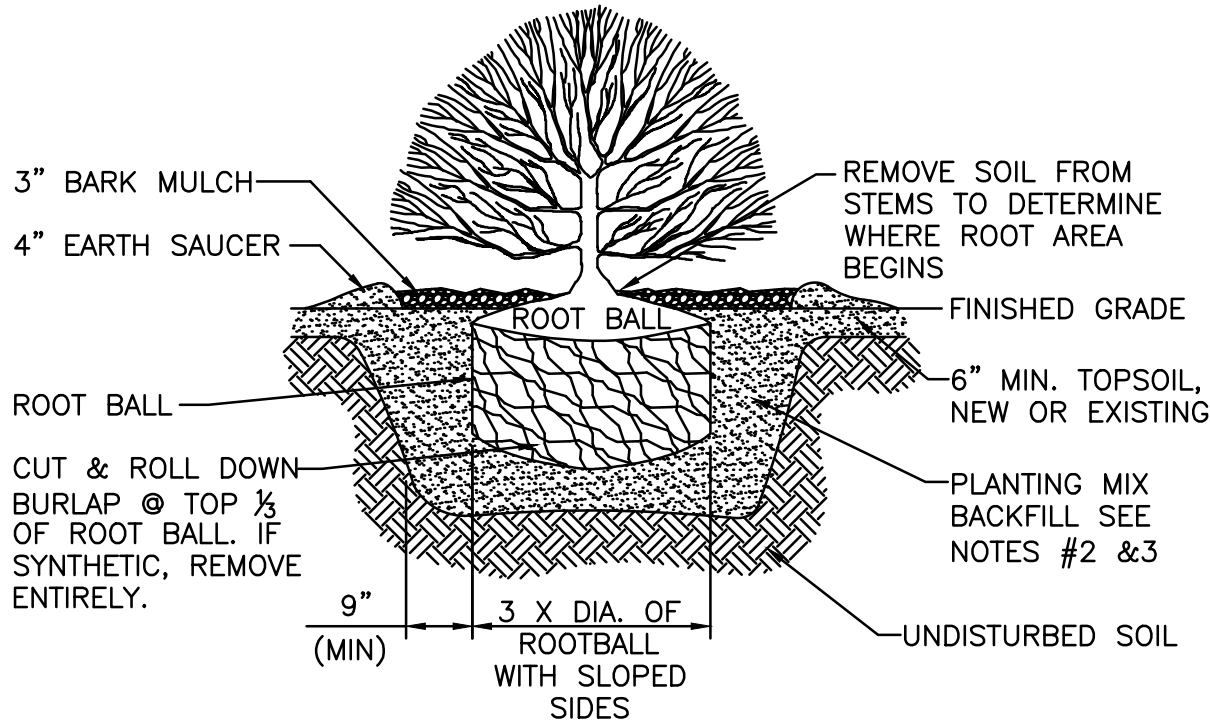
TEMP. CONST. FENCE / TREE PROTECTION

NOT TO SCALE

4

NOTES:

1. ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1"-2" ABOVE FINISH GRADE.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
4. SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.

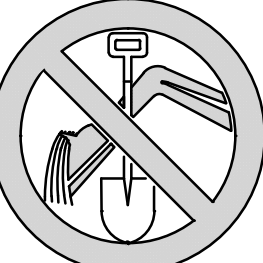


SHRUB PLANTING DETAIL

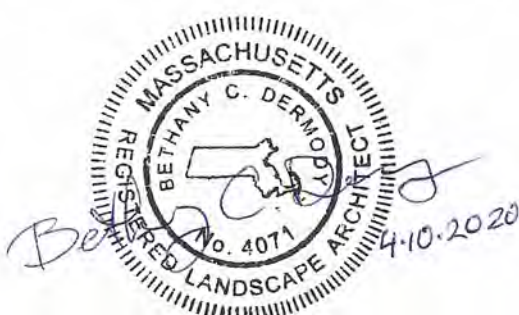
NOT TO SCALE

5

DIG SAFE



BEFORE YOU DIG  
CALL 811 OR  
1-888-DIG-SAFE  
1-888-344-7233



REGISTERED LANDSCAPE ARCHITECT FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
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APPLICANT/OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
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SCALE:	NTS	DWG. NAME:	C2729-01
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DESIGNED BY:	BCD	CHECKED BY:	BDJ/RC
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PREPARED BY:

**ALLEN & MAJOR ASSOCIATES, INC.**  
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DRAWING TITLE:

LANDSCAPE DETAILS

SHEET No.

L-501

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April 10, 2020

Jennifer Raitt  
Director of Planning & Community  
Development  
730 Massachusetts Ave  
Arlington, MA 02476

RE: Mixed-Use Redevelopment  
Drainage Summary Letter  
882-892 Massachusetts Ave  
Arlington, MA 02476

Dear Ms. Raitt,

On behalf of our Client, 882-892 Massachusetts Ave, LLC, Allen & Major Associates (A&M) is pleased to provide this letter in support of the Special Permit application for the Mixed-Use Redevelopment project at 882-892 Massachusetts Ave. This letter will summarize the changes to the stormwater management system which are proposed as part of the redevelopment efforts.

**Existing Conditions**

The site is located on the corner of Lockeland Avenue and Massachusetts Avenue with access to the parking area from Lockeland Avenue. It is comprised of two property's, identified on the City tax Map 126, Block 1, Lots 6 and 7. Lot 6 is predominantly covered by an existing 1-story brick building, approximately 4,786 square feet. Lot 7 is predominantly covered by paved parking area. Elevations onsite range from elevation 79 to elevation 80. Elevation 79 is the low point on-site located at the existing catch basin, and elevation 80 runs along the southern property line. Stormwater sheet flows from the paved parking lot to onsite to the existing catch basin which discharges to the existing municipal system via an 8" cast iron pipe. The majority of the stormwater from the site discharges through this connection including the roof drainage and parking lot. A review of the NRCS soil report for Middlesex County indicates that the soil onsite is considered Merrimac-Urban Land which has a Hydrologic Soil Group rating of an "A". A copy of the Existing Watershed Plan is included herewith.

**Proposed Conditions**

The project, proposes to demolish the existing structure to construct a 4-story, 4,693 square foot Mixed-Use building with apartment and retail uses. There are 22 apartment units proposed and a 750 square foot retail component. The parking area is proposed to be reconstructed within the constraints of the existing pavement area. The stormwater management system will be improved with the installation of a new catch basin with a sump and hood at the outlet pipe to provide stormwater treatment. The quantity of stormwater runoff will be reduced with the installation of landscaped areas on-site. The proposed work will result in approximately 1,470 square feet of impervious material being replaced with landscaped areas.

Runoff flows were estimated for both pre and post development conditions using HydroCAD 10.00 software, at two specific "Study Points" (SP-1 & SP-2). Study Point 1 is the flows that will enter the on-site catch basin and discharge to the municipal drainage system. Study Point 2 is the stormwater flows that will flow onto Massachusetts Ave, and be collected within the street catch basins. The table below shows that the project causes a reduction in the peak rate of runoff and volume of stormwater leaving the site at both Study Points. Copies of the HydroCAD worksheets and Watershed Plans are included herewith.



<b>STUDY POINT #1 (flow to on-site catch basin)</b>			
	2-Year	10-Year	100-Year
Existing Flow (CFS)	1.02	1.55	2.83
Proposed Flow (CFS)	0.92	1.47	2.79
<b>Decrease (CFS)</b>	<b>0.10</b>	<b>0.08</b>	<b>0.04</b>
Existing Volume (CF)	3,400	5,267	9,812
Proposed Volume (CF)	2,833	4,671	9,212
<b>Decrease (CF)</b>	<b>567</b>	<b>596</b>	<b>600</b>

<b>STUDY POINT #2 (flow to Mass Ave)</b>			
	2-Year	10-Year	100-Year
Existing Flow (CFS)	0.06	0.09	0.16
Proposed Flow (CFS)	0.01	0.03	0.08
<b>Decrease (CFS)</b>	<b>0.05</b>	<b>0.06</b>	<b>0.08</b>
Existing Volume (CF)	192	297	554
Proposed Volume (CF)	31	81	241
<b>Decrease (CF)</b>	<b>161</b>	<b>216</b>	<b>313</b>

The surface water drainage requirements of the Town of Arlington Zoning Bylaw Environmental Design Review Standards have been reviewed and met with the proposed design. The proposed project will introduce landscaped areas to the site to reduce the impervious area, and a new catch basin is proposed with a sump and hood at the outlet pipe to provide stormwater treatment. The Town of Arlington, Article 15 Stormwater Mitigation, shall not apply as the proposed development will introduce a reduction in impervious area. However, with the proposed landscaped areas the project will reduce the runoff rates for all design storms, and comply with this bylaw.

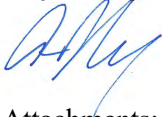
#### **Summary**

As shown in the table above, the proposed development will have a positive impact on the stormwater management system by reducing the rate and volume of stormwater runoff from the site.

Very truly yours,

ALLEN & MAJOR ASSOCIATES, INC.

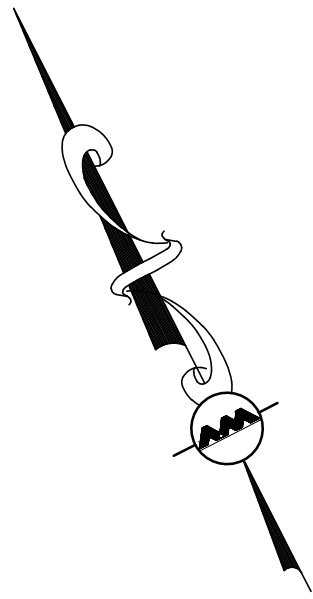
Aaron Mackey, PE  
Project Engineer



Attachments:

1. Existing Watershed Plan
2. Proposed Watershed Plan
3. Pre development HydroCAD Calculations
4. Post development HydroCAD Calculations
5. Extreme Precipitation Tables
6. NRCS Soil Report





EXISTING WATERSHED      - - - - -

SUBCATCHMENT BOUNDARY      —————

SUBCATCHMENT LABEL

**APPLICANT\OWNER:**  
882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

**892 MASSACHUSETTS AVE**  
**ARLINGTON, MA 02476**

PREPARED BY:

**M M M**

---

WOBURN, MA ♦ LAKEVILLE, MA ♦ MANCHESTER, NH

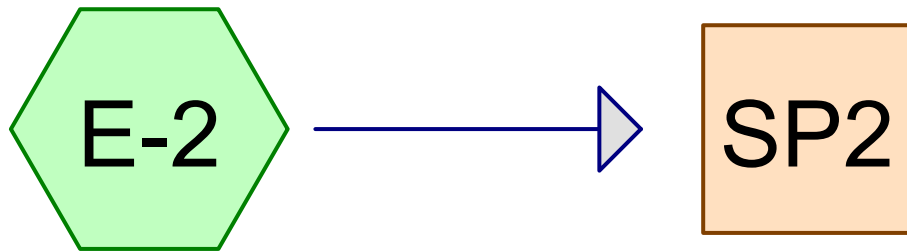
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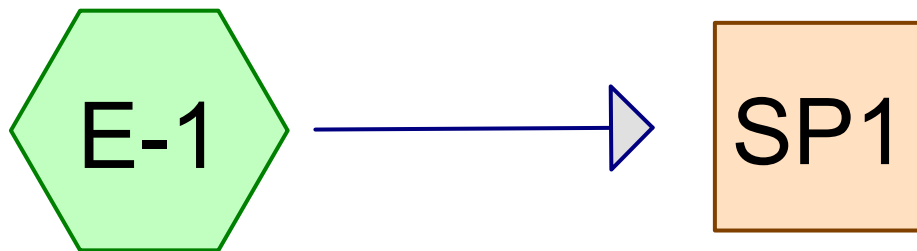






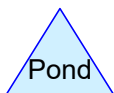
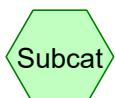
Subcat E-2

Study Point 2



Subcat E-1

Study Point 1





## 2729-01\_Existing-Conditions

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### Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
9,372	98	Paved parking, HSG A (E-1, E-2)
5,008	98	Roofs, HSG A (E-1)
<b>14,381</b>	<b>98</b>	<b>TOTAL AREA</b>



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### Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
14,381	HSG A	E-1, E-2
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
<b>14,381</b>		<b>TOTAL AREA</b>



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### Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchment Numbers
9,372	0	0	0	0	9,372	Paved parking	E-1, E-2
5,008	0	0	0	0	5,008	Roofs	E-1
<b>14,381</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,381</b>	<b>TOTAL AREA</b>	



## 2729-01\_Existing-Conditions

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Type III 24-hr 2-Year Rainfall=3.23"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

### Subcatchment E-1: Subcat E-1

Runoff Area=13,613 sf 100.00% Impervious Runoff Depth=3.00"  
Tc=5.0 min CN=98 Runoff=1.02 cfs 3,400 cf

### Subcatchment E-2: Subcat E-2

Runoff Area=768 sf 100.00% Impervious Runoff Depth=3.00"  
Tc=5.0 min CN=98 Runoff=0.06 cfs 192 cf

### Reach SP1: Study Point 1

Inflow=1.02 cfs 3,400 cf  
Outflow=1.02 cfs 3,400 cf

### Reach SP2: Study Point 2

Inflow=0.06 cfs 192 cf  
Outflow=0.06 cfs 192 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 3,592 cf Average Runoff Depth = 3.00"**  
**0.00% Pervious = 0 sf 100.00% Impervious = 14,381 sf**



**2729-01\_Existing-Conditions**

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Type III 24-hr 2-Year Rainfall=3.23"

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**Summary for Subcatchment E-1: Subcat E-1**

Runoff = 1.02 cfs @ 12.07 hrs, Volume= 3,400 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-Year Rainfall=3.23"

Area (sf)	CN	Description
8,604	98	Paved parking, HSG A
5,008	98	Roofs, HSG A
13,613	98	Weighted Average
13,613		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment E-2: Subcat E-2**

Runoff = 0.06 cfs @ 12.07 hrs, Volume= 192 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-Year Rainfall=3.23"

Area (sf)	CN	Description
768	98	Paved parking, HSG A
768		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,613 sf, 100.00% Impervious, Inflow Depth = 3.00" for 2-Year event

Inflow = 1.02 cfs @ 12.07 hrs, Volume= 3,400 cf

Outflow = 1.02 cfs @ 12.07 hrs, Volume= 3,400 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 768 sf, 100.00% Impervious, Inflow Depth = 3.00" for 2-Year event

Inflow = 0.06 cfs @ 12.07 hrs, Volume= 192 cf

Outflow = 0.06 cfs @ 12.07 hrs, Volume= 192 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



## 2729-01\_Existing-Conditions

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Type III 24-hr 10-Year Rainfall=4.88"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

### Subcatchment E-1: Subcat E-1

Runoff Area=13,613 sf 100.00% Impervious Runoff Depth=4.64"  
Tc=5.0 min CN=98 Runoff=1.55 cfs 5,267 cf

### Subcatchment E-2: Subcat E-2

Runoff Area=768 sf 100.00% Impervious Runoff Depth=4.64"  
Tc=5.0 min CN=98 Runoff=0.09 cfs 297 cf

### Reach SP1: Study Point 1

Inflow=1.55 cfs 5,267 cf  
Outflow=1.55 cfs 5,267 cf

### Reach SP2: Study Point 2

Inflow=0.09 cfs 297 cf  
Outflow=0.09 cfs 297 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 5,565 cf Average Runoff Depth = 4.64"**  
**0.00% Pervious = 0 sf 100.00% Impervious = 14,381 sf**



**2729-01\_Existing-Conditions**

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Type III 24-hr 10-Year Rainfall=4.88"

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**Summary for Subcatchment E-1: Subcat E-1**

Runoff = 1.55 cfs @ 12.07 hrs, Volume= 5,267 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=4.88"

Area (sf)	CN	Description
8,604	98	Paved parking, HSG A
5,008	98	Roofs, HSG A
13,613	98	Weighted Average
13,613		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment E-2: Subcat E-2**

Runoff = 0.09 cfs @ 12.07 hrs, Volume= 297 cf, Depth= 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
 Type III 24-hr 10-Year Rainfall=4.88"

Area (sf)	CN	Description
768	98	Paved parking, HSG A
768		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,613 sf, 100.00% Impervious, Inflow Depth = 4.64" for 10-Year event  
 Inflow = 1.55 cfs @ 12.07 hrs, Volume= 5,267 cf  
 Outflow = 1.55 cfs @ 12.07 hrs, Volume= 5,267 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 768 sf, 100.00% Impervious, Inflow Depth = 4.64" for 10-Year event  
 Inflow = 0.09 cfs @ 12.07 hrs, Volume= 297 cf  
 Outflow = 0.09 cfs @ 12.07 hrs, Volume= 297 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



## 2729-01\_Existing-Conditions

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Type III 24-hr 100-Year Rainfall=8.89"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

### Subcatchment E-1: Subcat E-1

Runoff Area=13,613 sf 100.00% Impervious Runoff Depth=8.65"  
Tc=5.0 min CN=98 Runoff=2.83 cfs 9,812 cf

### Subcatchment E-2: Subcat E-2

Runoff Area=768 sf 100.00% Impervious Runoff Depth=8.65"  
Tc=5.0 min CN=98 Runoff=0.16 cfs 554 cf

### Reach SP1: Study Point 1

Inflow=2.83 cfs 9,812 cf  
Outflow=2.83 cfs 9,812 cf

### Reach SP2: Study Point 2

Inflow=0.16 cfs 554 cf  
Outflow=0.16 cfs 554 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 10,366 cf Average Runoff Depth = 8.65"**  
**0.00% Pervious = 0 sf 100.00% Impervious = 14,381 sf**



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Type III 24-hr 100-Year Rainfall=8.89"

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**Summary for Subcatchment E-1: Subcat E-1**

Runoff = 2.83 cfs @ 12.07 hrs, Volume= 9,812 cf, Depth= 8.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 100-Year Rainfall=8.89"

Area (sf)	CN	Description
8,604	98	Paved parking, HSG A
5,008	98	Roofs, HSG A
13,613	98	Weighted Average
13,613		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment E-2: Subcat E-2**

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 554 cf, Depth= 8.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 100-Year Rainfall=8.89"

Area (sf)	CN	Description
768	98	Paved parking, HSG A
768		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,613 sf, 100.00% Impervious, Inflow Depth = 8.65" for 100-Year event

Inflow = 2.83 cfs @ 12.07 hrs, Volume= 9,812 cf

Outflow = 2.83 cfs @ 12.07 hrs, Volume= 9,812 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

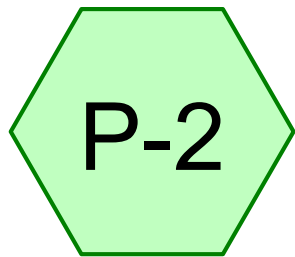
Inflow Area = 768 sf, 100.00% Impervious, Inflow Depth = 8.65" for 100-Year event

Inflow = 0.16 cfs @ 12.07 hrs, Volume= 554 cf

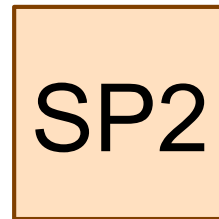
Outflow = 0.16 cfs @ 12.07 hrs, Volume= 554 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

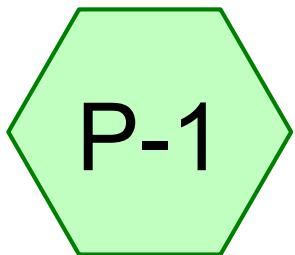




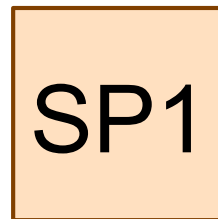
Subcat P-2



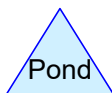
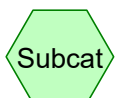
Study Point 2



Subcat P-1



Study Point 1





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### Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,470	39	>75% Grass cover, Good, HSG A (P-1, P-2)
8,217	98	Paved parking, HSG A (P-1, P-2)
4,693	98	Roofs, HSG A (P-1)
<b>14,381</b>	<b>92</b>	<b>TOTAL AREA</b>



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**Soil Listing (all nodes)**

Area (sq-ft)	Soil Group	Subcatchment Numbers
14,381	HSG A	P-1, P-2
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
<b>14,381</b>		<b>TOTAL AREA</b>



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**Ground Covers (all nodes)**

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchment Numbers
1,470	0	0	0	0	1,470	>75% Grass cover, Good	P-1, P-2
8,217	0	0	0	0	8,217	Paved parking	P-1, P-2
4,693	0	0	0	0	4,693	Roofs	P-1
<b>14,381</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,381</b>	<b>TOTAL AREA</b>	



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Type III 24-hr 2-Year Rainfall=3.23"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment P-1: Subcat P-1**

Runoff Area=13,738 sf 92.26% Impervious Runoff Depth=2.47"

Tc=5.0 min CN=93 Runoff=0.92 cfs 2,833 cf

**Subcatchment P-2: Subcat P-2**

Runoff Area=643 sf 36.61% Impervious Runoff Depth=0.46"

Tc=5.0 min CN=61 Runoff=0.01 cfs 24 cf

**Reach SP1: Study Point 1**

Inflow=0.92 cfs 2,833 cf

Outflow=0.92 cfs 2,833 cf

**Reach SP2: Study Point 2**

Inflow=0.01 cfs 24 cf

Outflow=0.01 cfs 24 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 2,857 cf Average Runoff Depth = 2.38"****10.22% Pervious = 1,470 sf 89.78% Impervious = 12,910 sf**



**2729-01\_Proposed-Conditions**

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Type III 24-hr 2-Year Rainfall=3.23"

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**Summary for Subcatchment P-1: Subcat P-1**

Runoff = 0.92 cfs @ 12.07 hrs, Volume= 2,833 cf, Depth= 2.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-Year Rainfall=3.23"

Area (sf)	CN	Description
7,982	98	Paved parking, HSG A
4,693	98	Roofs, HSG A
1,063	39	>75% Grass cover, Good, HSG A
13,738	93	Weighted Average
1,063		7.74% Pervious Area
12,675		92.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment P-2: Subcat P-2**

Runoff = 0.01 cfs @ 12.11 hrs, Volume= 24 cf, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2-Year Rainfall=3.23"

Area (sf)	CN	Description
408	39	>75% Grass cover, Good, HSG A
235	98	Paved parking, HSG A
643	61	Weighted Average
408		63.39% Pervious Area
235		36.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,738 sf, 92.26% Impervious, Inflow Depth = 2.47" for 2-Year event  
 Inflow = 0.92 cfs @ 12.07 hrs, Volume= 2,833 cf  
 Outflow = 0.92 cfs @ 12.07 hrs, Volume= 2,833 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 643 sf, 36.61% Impervious, Inflow Depth = 0.46" for 2-Year event  
 Inflow = 0.01 cfs @ 12.11 hrs, Volume= 24 cf  
 Outflow = 0.01 cfs @ 12.11 hrs, Volume= 24 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



**2729-01\_Proposed-Conditions**

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Type III 24-hr 10-Year Rainfall=4.88"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment P-1: Subcat P-1**

Runoff Area=13,738 sf 92.26% Impervious Runoff Depth=4.08"

Tc=5.0 min CN=93 Runoff=1.47 cfs 4,671 cf

**Subcatchment P-2: Subcat P-2**

Runoff Area=643 sf 36.61% Impervious Runoff Depth=1.30"

Tc=5.0 min CN=61 Runoff=0.02 cfs 70 cf

**Reach SP1: Study Point 1**

Inflow=1.47 cfs 4,671 cf

Outflow=1.47 cfs 4,671 cf

**Reach SP2: Study Point 2**

Inflow=0.02 cfs 70 cf

Outflow=0.02 cfs 70 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 4,740 cf Average Runoff Depth = 3.96"****10.22% Pervious = 1,470 sf 89.78% Impervious = 12,910 sf**



**2729-01\_Proposed-Conditions**

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Type III 24-hr 10-Year Rainfall=4.88"

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**Summary for Subcatchment P-1: Subcat P-1**

Runoff = 1.47 cfs @ 12.07 hrs, Volume= 4,671 cf, Depth= 4.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-Year Rainfall=4.88"

Area (sf)	CN	Description
7,982	98	Paved parking, HSG A
4,693	98	Roofs, HSG A
1,063	39	>75% Grass cover, Good, HSG A
13,738	93	Weighted Average
1,063		7.74% Pervious Area
12,675		92.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment P-2: Subcat P-2**

Runoff = 0.02 cfs @ 12.08 hrs, Volume= 70 cf, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10-Year Rainfall=4.88"

Area (sf)	CN	Description
408	39	>75% Grass cover, Good, HSG A
235	98	Paved parking, HSG A
643	61	Weighted Average
408		63.39% Pervious Area
235		36.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,738 sf, 92.26% Impervious, Inflow Depth = 4.08" for 10-Year event  
 Inflow = 1.47 cfs @ 12.07 hrs, Volume= 4,671 cf  
 Outflow = 1.47 cfs @ 12.07 hrs, Volume= 4,671 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 643 sf, 36.61% Impervious, Inflow Depth = 1.30" for 10-Year event  
 Inflow = 0.02 cfs @ 12.08 hrs, Volume= 70 cf  
 Outflow = 0.02 cfs @ 12.08 hrs, Volume= 70 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



**2729-01\_Proposed-Conditions**

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Type III 24-hr 100-Year Rainfall=8.89"

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Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment P-1: Subcat P-1**

Runoff Area=13,738 sf 92.26% Impervious Runoff Depth=8.05"

Tc=5.0 min CN=93 Runoff=2.79 cfs 9,212 cf

**Subcatchment P-2: Subcat P-2**

Runoff Area=643 sf 36.61% Impervious Runoff Depth=4.14"

Tc=5.0 min CN=61 Runoff=0.07 cfs 222 cf

**Reach SP1: Study Point 1**

Inflow=2.79 cfs 9,212 cf

Outflow=2.79 cfs 9,212 cf

**Reach SP2: Study Point 2**

Inflow=0.07 cfs 222 cf

Outflow=0.07 cfs 222 cf

**Total Runoff Area = 14,381 sf Runoff Volume = 9,433 cf Average Runoff Depth = 7.87"****10.22% Pervious = 1,470 sf 89.78% Impervious = 12,910 sf**



**2729-01\_Proposed-Conditions**

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**Summary for Subcatchment P-1: Subcat P-1**

Runoff = 2.79 cfs @ 12.07 hrs, Volume= 9,212 cf, Depth= 8.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 100-Year Rainfall=8.89"

Area (sf)	CN	Description
7,982	98	Paved parking, HSG A
4,693	98	Roofs, HSG A
1,063	39	>75% Grass cover, Good, HSG A
13,738	93	Weighted Average
1,063		7.74% Pervious Area
12,675		92.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Subcatchment P-2: Subcat P-2**

Runoff = 0.07 cfs @ 12.08 hrs, Volume= 222 cf, Depth= 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs  
Type III 24-hr 100-Year Rainfall=8.89"

Area (sf)	CN	Description
408	39	>75% Grass cover, Good, HSG A
235	98	Paved parking, HSG A
643	61	Weighted Average
408		63.39% Pervious Area
235		36.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Assumed

**Summary for Reach SP1: Study Point 1**

Inflow Area = 13,738 sf, 92.26% Impervious, Inflow Depth = 8.05" for 100-Year event  
 Inflow = 2.79 cfs @ 12.07 hrs, Volume= 9,212 cf  
 Outflow = 2.79 cfs @ 12.07 hrs, Volume= 9,212 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

**Summary for Reach SP2: Study Point 2**

Inflow Area = 643 sf, 36.61% Impervious, Inflow Depth = 4.14" for 100-Year event  
 Inflow = 0.07 cfs @ 12.08 hrs, Volume= 222 cf  
 Outflow = 0.07 cfs @ 12.08 hrs, Volume= 222 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3



# Extreme Precipitation Tables

## Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

<b>Smoothing</b>	Yes
<b>State</b>	Massachusetts
<b>Location</b>	
<b>Longitude</b>	71.164 degrees West
<b>Latitude</b>	42.417 degrees North
<b>Elevation</b>	0 feet
<b>Date/Time</b>	Wed, 22 Jan 2020 13:40:55 -0500

## Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.28	0.43	0.53	0.70	0.87	1.10	<b>1yr</b>	0.75	1.04	1.28	1.63	2.08	2.68	2.92	<b>1yr</b>	2.37	2.81	3.27	3.96	4.64	<b>1yr</b>
<b>2yr</b>	0.35	0.54	0.67	0.88	1.11	1.40	<b>2yr</b>	0.96	1.28	1.62	2.03	2.56	3.23	3.57	<b>2yr</b>	2.85	3.44	3.94	4.68	5.34	<b>2yr</b>
<b>5yr</b>	0.41	0.64	0.81	1.08	1.39	1.77	<b>5yr</b>	1.20	1.60	2.05	2.59	3.25	4.08	4.55	<b>5yr</b>	3.61	4.37	4.99	5.95	6.68	<b>5yr</b>
<b>10yr</b>	0.47	0.73	0.93	1.26	1.64	2.11	<b>10yr</b>	1.42	1.90	2.46	3.11	3.90	4.88	5.45	<b>10yr</b>	4.32	5.25	5.97	7.14	7.91	<b>10yr</b>
<b>25yr</b>	0.56	0.88	1.12	1.55	2.05	2.66	<b>25yr</b>	1.77	2.39	3.12	3.95	4.96	6.19	6.95	<b>25yr</b>	5.48	6.68	7.57	9.09	9.91	<b>25yr</b>
<b>50yr</b>	0.63	1.01	1.29	1.81	2.44	3.20	<b>50yr</b>	2.10	2.85	3.76	4.76	5.97	7.42	8.35	<b>50yr</b>	6.56	8.03	9.07	10.91	11.75	<b>50yr</b>
<b>100yr</b>	0.72	1.17	1.51	2.13	2.90	3.82	<b>100yr</b>	2.50	3.39	4.50	5.71	7.16	8.89	10.03	<b>100yr</b>	7.86	9.65	10.86	13.10	13.95	<b>100yr</b>
<b>200yr</b>	0.83	1.35	1.74	2.50	3.45	4.57	<b>200yr</b>	2.97	4.03	5.40	6.86	8.59	10.65	12.07	<b>200yr</b>	9.42	11.60	13.02	15.73	16.56	<b>200yr</b>
<b>500yr</b>	1.00	1.64	2.14	3.10	4.34	5.80	<b>500yr</b>	3.74	5.08	6.86	8.74	10.94	13.54	15.41	<b>500yr</b>	11.98	14.82	16.54	20.06	20.78	<b>500yr</b>

## Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.24	0.38	0.46	0.62	0.76	0.84	<b>1yr</b>	0.66	0.83	1.14	1.43	1.77	2.41	2.48	<b>1yr</b>	2.14	2.38	2.92	3.52	4.01	<b>1yr</b>
<b>2yr</b>	0.33	0.51	0.63	0.85	1.05	1.26	<b>2yr</b>	0.91	1.23	1.44	1.91	2.47	3.12	3.45	<b>2yr</b>	2.76	3.32	3.80	4.52	5.17	<b>2yr</b>
<b>5yr</b>	0.39	0.60	0.74	1.02	1.30	1.50	<b>5yr</b>	1.12	1.47	1.72	2.24	2.87	3.75	4.15	<b>5yr</b>	3.32	3.99	4.57	5.45	6.14	<b>5yr</b>
<b>10yr</b>	0.43	0.67	0.82	1.15	1.49	1.72	<b>10yr</b>	1.28	1.68	1.94	2.52	3.23	4.32	4.80	<b>10yr</b>	3.83	4.61	5.24	6.25	7.00	<b>10yr</b>
<b>25yr</b>	0.50	0.76	0.95	1.35	1.78	2.04	<b>25yr</b>	1.53	1.99	2.29	2.95	3.76	5.19	5.78	<b>25yr</b>	4.59	5.56	6.29	7.47	8.28	<b>25yr</b>
<b>50yr</b>	0.55	0.84	1.05	1.51	2.03	2.34	<b>50yr</b>	1.75	2.29	2.60	3.33	4.23	5.94	6.65	<b>50yr</b>	5.26	6.39	7.20	8.51	9.40	<b>50yr</b>
<b>100yr</b>	0.62	0.93	1.17	1.69	2.32	2.66	<b>100yr</b>	2.00	2.60	2.94	3.61	4.75	6.83	7.64	<b>100yr</b>	6.04	7.35	8.26	9.67	10.68	<b>100yr</b>
<b>200yr</b>	0.69	1.04	1.32	1.92	2.67	3.04	<b>200yr</b>	2.31	2.97	3.34	4.04	5.35	7.83	8.79	<b>200yr</b>	6.93	8.45	9.46	10.96	12.10	<b>200yr</b>
<b>500yr</b>	0.81	1.21	1.55	2.25	3.21	3.62	<b>500yr</b>	2.77	3.54	3.93	4.69	6.27	9.39	10.55	<b>500yr</b>	8.31	10.15	11.32	12.90	14.25	<b>500yr</b>

## Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
<b>1yr</b>	0.31	0.48	0.58	0.79	0.97	1.13	<b>1yr</b>	0.83	1.11	1.32	1.76	2.25	2.86	3.16	<b>1yr</b>	2.53	3.04	3.51	4.30	5.03	<b>1yr</b>
<b>2yr</b>	0.36	0.56	0.69	0.93	1.15	1.36	<b>2yr</b>	0.99	1.33	1.57	2.07	2.67	3.35	3.73	<b>2yr</b>	2.97	3.59	4.10	4.88	5.54	<b>2yr</b>
<b>5yr</b>	0.45	0.69	0.86	1.18	1.50	1.78	<b>5yr</b>	1.30	1.74	2.05	2.65	3.37	4.44	5.00	<b>5yr</b>	3.93	4.81	5.43	6.47	7.22	<b>5yr</b>
<b>10yr</b>	0.55	0.84	1.04	1.45	1.88	2.19	<b>10yr</b>	1.62	2.14	2.54	3.20	4.04	5.52	6.25	<b>10yr</b>	4.89	6.01	6.74	8.04	8.84	<b>10yr</b>
<b>25yr</b>	0.71	1.08	1.34	1.92	2.52	2.89	<b>25yr</b>	2.18	2.82	3.37	4.13	5.14	7.34	8.43	<b>25yr</b>	6.50	8.11	8.96	10.76	11.58	<b>25yr</b>
<b>50yr</b>	0.86	1.31	1.63	2.34	3.15	3.57	<b>50yr</b>	2.72	3.49	4.17	5.02	6.17	9.12	10.57	<b>50yr</b>	8.07	10.16	11.11	13.43	14.21	<b>50yr</b>
<b>100yr</b>	1.05	1.59	1.99	2.87	3.94	4.39	<b>100yr</b>	3.40	4.30	5.18	6.33	7.40	11.34	13.27	<b>100yr</b>	10.04	12.76	13.79	16.80	17.48	<b>100yr</b>
<b>200yr</b>	1.28	1.92	2.44	3.53	4.92	5.43	<b>200yr</b>	4.25	5.30	6.43	7.72	8.88	14.11	16.67	<b>200yr</b>	12.49	16.03	17.14	21.02	21.51	<b>200yr</b>
<b>500yr</b>	1.67	2.48	3.19	4.63	6.59	7.15	<b>500yr</b>	5.69	6.99	8.57	10.06	11.30	18.86	22.55	<b>500yr</b>	16.69	21.69	22.82	28.32	28.35	<b>500yr</b>





United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Middlesex County, Massachusetts**





# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil



scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and



## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.



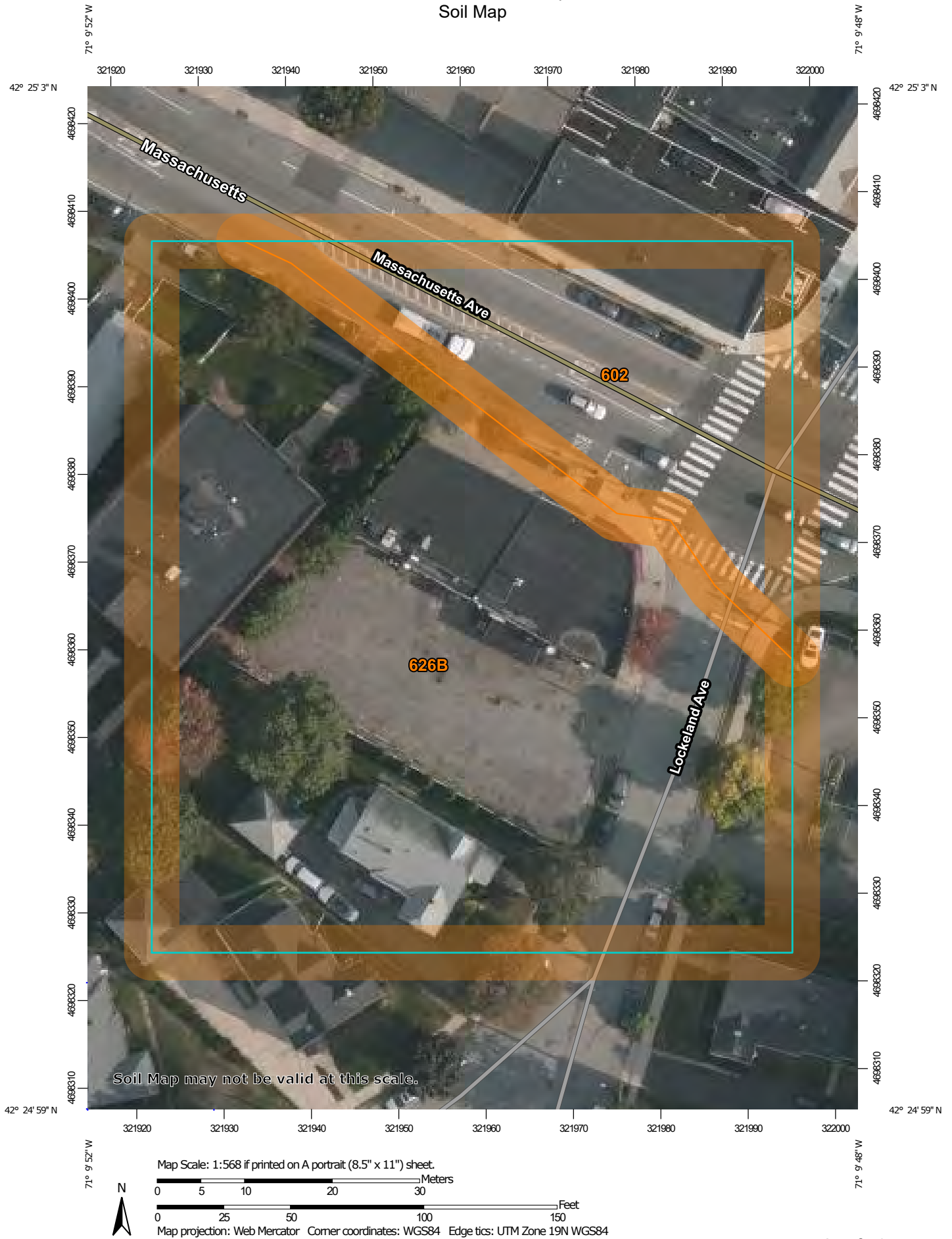
# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# Custom Soil Resource Report Soil Map






## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts  
Survey Area Data: Version 19, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
602	Urban land	0.3	23.4%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	1.1	76.6%
<b>Totals for Area of Interest</b>		<b>1.5</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,



onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## Middlesex County, Massachusetts

### 602—Urban land

#### Map Unit Setting

*National map unit symbol:* 9950  
*Elevation:* 0 to 3,000 feet  
*Mean annual precipitation:* 32 to 50 inches  
*Mean annual air temperature:* 45 to 50 degrees F  
*Frost-free period:* 110 to 200 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Urban land:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Urban Land

##### Setting

*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Excavated and filled land

#### Minor Components

##### Rock outcrop

*Percent of map unit:* 5 percent  
*Landform:* Ledges  
*Landform position (two-dimensional):* Summit  
*Landform position (three-dimensional):* Head slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave

##### Udorthents, wet substratum

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

##### Udorthents, loamy

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

### 626B—Merrimac-Urban land complex, 0 to 8 percent slopes

#### Map Unit Setting

*National map unit symbol:* 2tyr9  
*Elevation:* 0 to 820 feet  
*Mean annual precipitation:* 36 to 71 inches



## Custom Soil Resource Report

*Mean annual air temperature:* 39 to 55 degrees F

*Frost-free period:* 140 to 250 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Merrimac and similar soils:* 45 percent

*Urban land:* 40 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Merrimac

#### Setting

*Landform:* Moraines, outwash plains, kames, eskers, outwash terraces

*Landform position (two-dimensional):* Backslope, footslope, summit, shoulder

*Landform position (three-dimensional):* Side slope, crest, riser, tread

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

#### Typical profile

*Ap - 0 to 10 inches:* fine sandy loam

*Bw1 - 10 to 22 inches:* fine sandy loam

*Bw2 - 22 to 26 inches:* stratified gravel to gravelly loamy sand

*2C - 26 to 65 inches:* stratified gravel to very gravelly sand

#### Properties and qualities

*Slope:* 0 to 8 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Somewhat excessively drained

*Runoff class:* Very low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to very high (1.42 to 99.90 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum in profile:* 2 percent

*Salinity, maximum in profile:* Nonsaline (0.0 to 1.4 mmhos/cm)

*Sodium adsorption ratio, maximum in profile:* 1.0

*Available water storage in profile:* Low (about 4.6 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 2e

*Hydrologic Soil Group:* A

*Hydric soil rating:* No

### Description of Urban Land

#### Typical profile

*M - 0 to 10 inches:* cemented material

#### Properties and qualities

*Slope:* 0 to 8 percent

*Depth to restrictive feature:* 0 inches to manufactured layer



## Custom Soil Resource Report

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)

*Available water storage in profile:* Very low (about 0.0 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydrologic Soil Group:* D

*Hydric soil rating:* Unranked

### Minor Components

#### Windsor

*Percent of map unit:* 5 percent

*Landform:* Deltas, outwash plains, dunes, outwash terraces

*Landform position (three-dimensional):* Riser, tread

*Down-slope shape:* Linear, convex

*Across-slope shape:* Linear, convex

*Hydric soil rating:* No

#### Sudbury

*Percent of map unit:* 5 percent

*Landform:* Terraces, deltas, outwash plains

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Tread, dip

*Down-slope shape:* Concave

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### Hinckley

*Percent of map unit:* 5 percent

*Landform:* Deltas, outwash plains, kames, eskers

*Landform position (two-dimensional):* Summit, shoulder, backslope

*Landform position (three-dimensional):* Nose slope, crest, head slope, side slope, rise

*Down-slope shape:* Convex

*Across-slope shape:* Convex, linear

*Hydric soil rating:* No



# **Soil Information for All Uses**

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## **Soil Properties and Qualities**

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

## **Soil Physical Properties**

Soil Physical Properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

### **Saturated Hydraulic Conductivity (Ksat)**

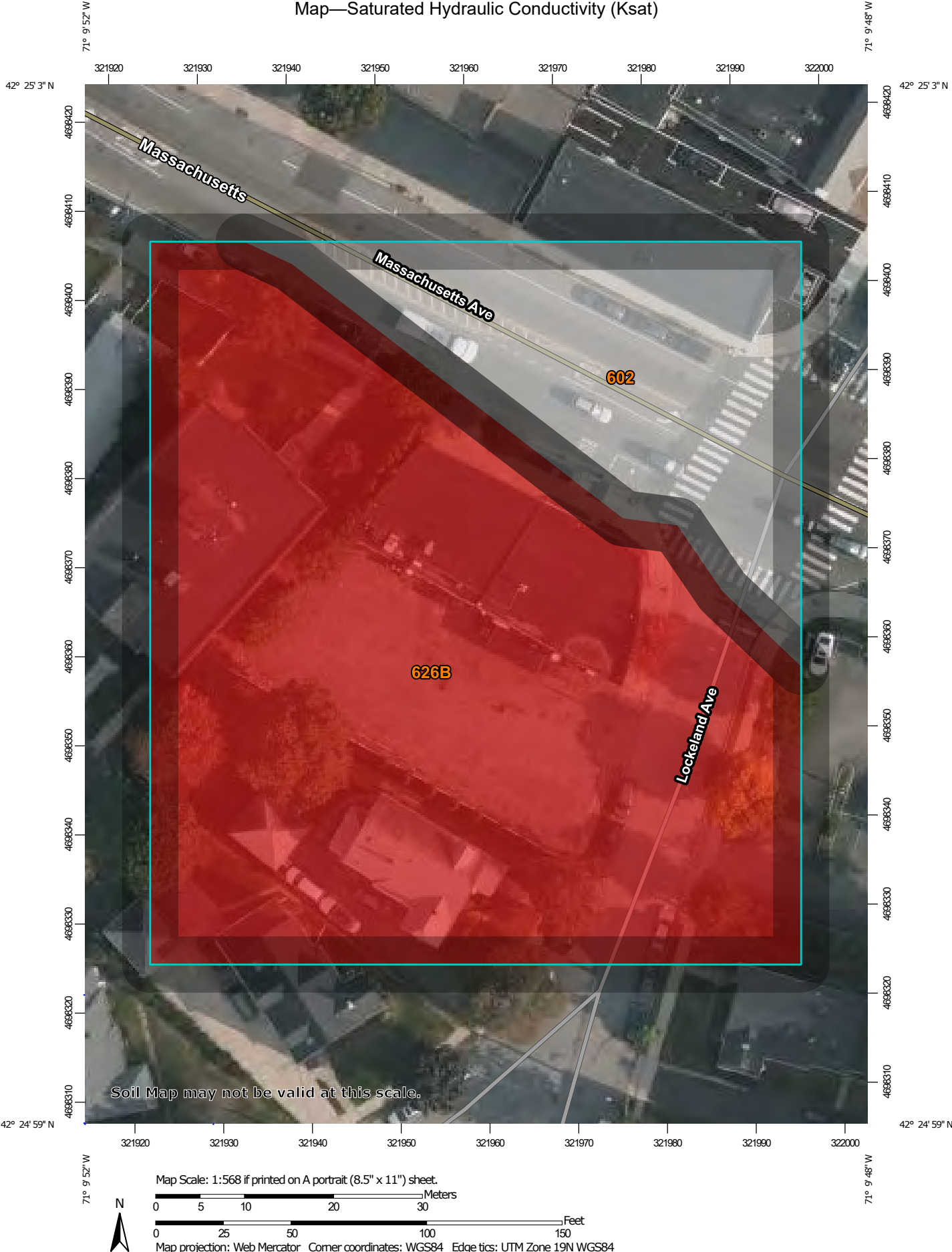
Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.




Custom Soil Resource Report  
Map—Saturated Hydraulic Conductivity (Ksat)






## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)


### Soils

#### Soil Rating Polygons

 = 100.0000


 Not rated or not available


#### Soil Rating Lines

 = 100.0000


 Not rated or not available

#### Soil Rating Points

 = 100.0000

 Not rated or not available

### Water Features

 Streams and Canals


### Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

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Date(s) aerial images were photographed: Sep 11, 2019—Oct 5, 2019

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**Table—Saturated Hydraulic Conductivity (Ksat)**

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
602	Urban land		0.3	23.4%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	100.0000	1.1	76.6%
<b>Totals for Area of Interest</b>			<b>1.5</b>	<b>100.0%</b>

**Rating Options—Saturated Hydraulic Conductivity (Ksat)**

*Units of Measure:* micrometers per second

*Aggregation Method:* Dominant Component

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Fastest

*Interpret Nulls as Zero:* No

*Layer Options (Horizon Aggregation Method):* Depth Range (Weighted Average)

*Top Depth:* 24

*Bottom Depth:* 90

*Units of Measure:* Centimeters

**Soil Qualities and Features**

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

**Hydrologic Soil Group**

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:



## Custom Soil Resource Report

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

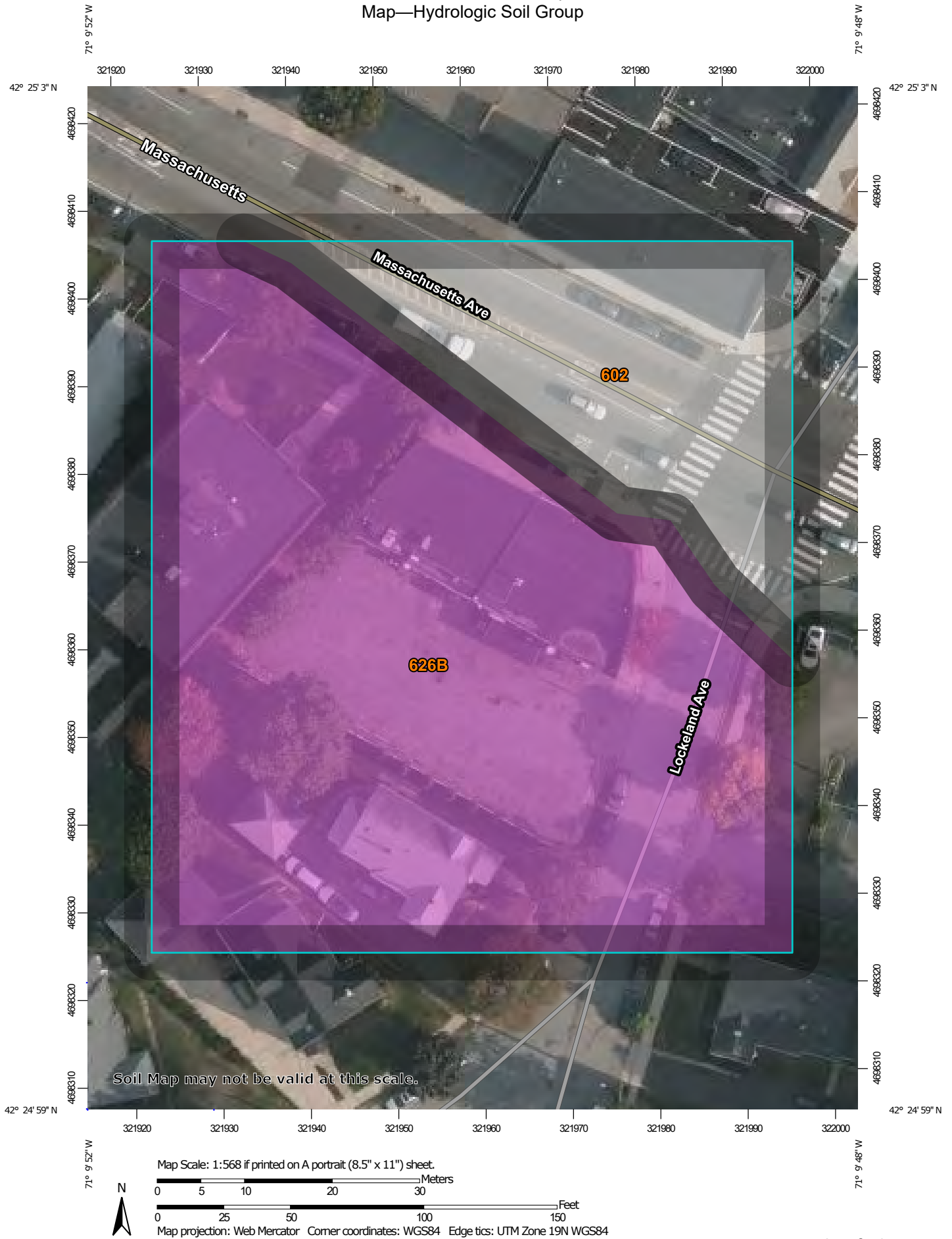
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.











# Custom Soil Resource Report

## Map—Hydrologic Soil Group













**MAP LEGEND****Area of Interest (AOI)**
 Area of Interest (AOI)
**Soils****Soil Rating Polygons**





 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available


**Soil Rating Lines**






 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available


**Soil Rating Points**

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

**Water Features**
 Streams and Canals
**Transportation**

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

**Background**
 Aerial Photography
**MAP INFORMATION**

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 Web Soil Survey URL:  
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**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
602	Urban land		0.3	23.4%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	A	1.1	76.6%
<b>Totals for Area of Interest</b>			<b>1.5</b>	<b>100.0%</b>

**Rating Options—Hydrologic Soil Group**

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher



# References

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>



## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)



Deed 1



2018 01783071  
Bk: 1523 Pg: 101 Cert#: 267194  
Doc: DEED 03/08/2018 12:33 PM

### QUITCLAIM DEED

FFCP LLC, a, a limited liability company duly formed under the laws of the Commonwealth of Massachusetts and having a principal place of business at 455 Massachusetts Avenue, Suite 1, Arlington, Middlesex County, Commonwealth of Massachusetts

for consideration paid of ~~one hundred~~ One Hundred and 00/100 (\$100.00) Dollars, grants to 882-892 Massachusetts Avenue, LLC, a limited liability company duly formed under the laws of the Commonwealth of Massachusetts and having a principal place of business at 455 Massachusetts Avenue, Suite 1, Arlington, Middlesex County, Commonwealth of Massachusetts

*with quitclaim covenants*

The premises known as 882-892 Massachusetts Avenue/Field Road, Arlington, Middlesex County, Massachusetts, described as follows:

#### Parcel I

That certain parcel of land situated in Arlington in the County of Middlesex and said Commonwealth of Massachusetts, bounded and described as follows:

NORTHEASTERLY:	by Massachusetts Avenue, fifty-two and 78/100 (52.78) feet;
EASTERLY:	by Field Road, now called Lockeland Avenue, by a curving line as shown on plan hereinafter mentioned, sixty-nine and 65/100 (69.65) feet;
SOUTHEASTERLY:	by said Field Road, twenty-five and 34/100 (25.34) feet;

**RETURN TO:**  
MacLean Holloway Doherty & Sheehan, P.C.  
8 Essex Center Drive  
Peabody, MA 01960

Page 1 of 4

263 193 1523-100

Property Address: 882-892 Massachusetts Ave./Field Road, Arlington, MA



**SOUTHWESTERLY:** by lot 67A on said plan, one hundred twenty-two and 89/100 (122.89) feet; and

**NORTHWESTERLY:** by land now or formerly of Timothy F. Hurley, fifty-nine and 97/100 (59.97) feet.

Said parcel is shown as lot 68A on said plan (Plan No. 9331E).

All of said boundaries are determined by the Court to be located as shown on a subdivision plan, as approved by the Court, filed with the Land Registration Office in Registration Book 149, Page 209, with Certificate 22249.

The above described land is subject to a Taking by the Town of Arlington for establishment of building line on both sides of Massachusetts Avenue, see the plan filed with the Land Registration Office as Plan No. 774, Document 52309; to a Taking for laying and maintaining main drains and common sewers in Field Road, see the plan filed with the Land Registration Office as Plan Book 355, Plan 42, Document 61387; to a Taking for Easement in Lockeland Avenue for laying and maintaining main drains, filed in the Land Registration Office as Document 81646; and to an Order of Taking for paying out Lockeland Avenue and Estimated Betterment Assessment, filed with the Land Registration Office as Document 112896.

#### Parcel II

That certain parcel of land in said Arlington, County of Middlesex, Commonwealth of Massachusetts, bounded and described as follows:

**SOUTHEASTERLY:** by Field Road, sixty and 23/100 (60.23) feet;

**SOUTHWESTERLY:** by lot 66 as shown on plan hereinafter mentioned, one hundred forty-eight and 15/100 (148.15) feet;

**NORTHWESTERLY:** by land now or formerly of Timothy F. Hurley; and

**NORTHEASTERLY:** by lot 68A on said plan, one hundred twenty-two and 89/100 (122.89) feet.

All of said boundaries are determined by the Court to be located as shown on a subdivision plan, as approved by the Court, filed with said Land Registration Office in Registration Book 149, Page 209, with Certificate 22249. Said parcel is shown as lot 67A on said plan (Plan No. 9331E).

The above described land is subject to a Taking by the Town of Arlington for laying and maintaining main drains and common sewers in Field Road, see plan filed with said Land Registration Office in Plan Book 355, Plan 42, Document 61387; to an Order to Taking for the



laying out Lockeland Avenue and Estimated Betterment Assessment, filed with the Land Registration Office as Document 112896.

The Grantor is not classified as a corporation for federal income tax purposes for the current taxable year.

Meaning and intending to convey the same premises described in deed dated October 4, 2017, from Fragio Realty Trust to FFCP, LLC, filed herewith.

[The Following Page Is the Signature Page]



Executed this 21st day of December, 2017 as a sealed instrument.

FFCP, LLC

By: FFP REALTY CORP., Its Manager

By:

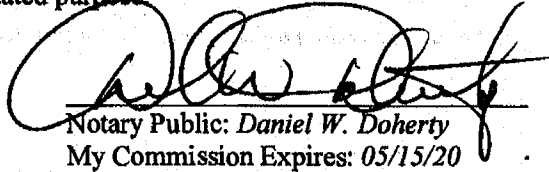
Frank Pasciuto, Its President and Treasurer

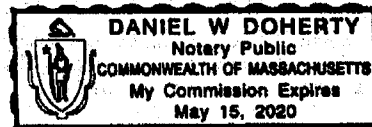
LLC  
12/21/17

**COMMONWEALTH OF MASSACHUSETTS**

Essex, ss.

On this 21st day of December, 2017, before me, the undersigned notary public, personally appeared Frank Pasciuto, as President and Treasurer of FFP Realty Corp., Manager of FFCP, LLC, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document in my presence, and acknowledged to me that he signed it voluntarily in his capacity as President and Treasurer of FFP Realty Corp. for its stated purpose.

  
Notary Public: *Daniel W. Doherty*  
My Commission Expires: 05/15/20





**DOCUMENT 01783071**

Southern Middlesex Land Court

REGISTRY DISTRICT

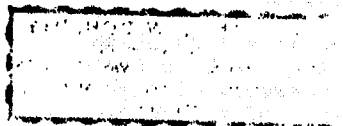
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On: Mar 06, 2018 at 12:33P

Document Fee: 125.00  
Receipt Total: \$325.00

NEW: CERT 267194 BK 01523 PG 101

OLD: CERT 267193 BK 1523 PG 100





9331<sup>E</sup>

Subdivision of Lots 67 & 68 shown on plan 9331<sup>B</sup> Sh.1

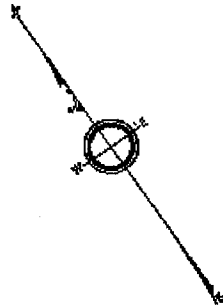
Filed with Cert. of Title No. 19,223 South Registry District of Middlesex County.

LAND IN ARLINGTON

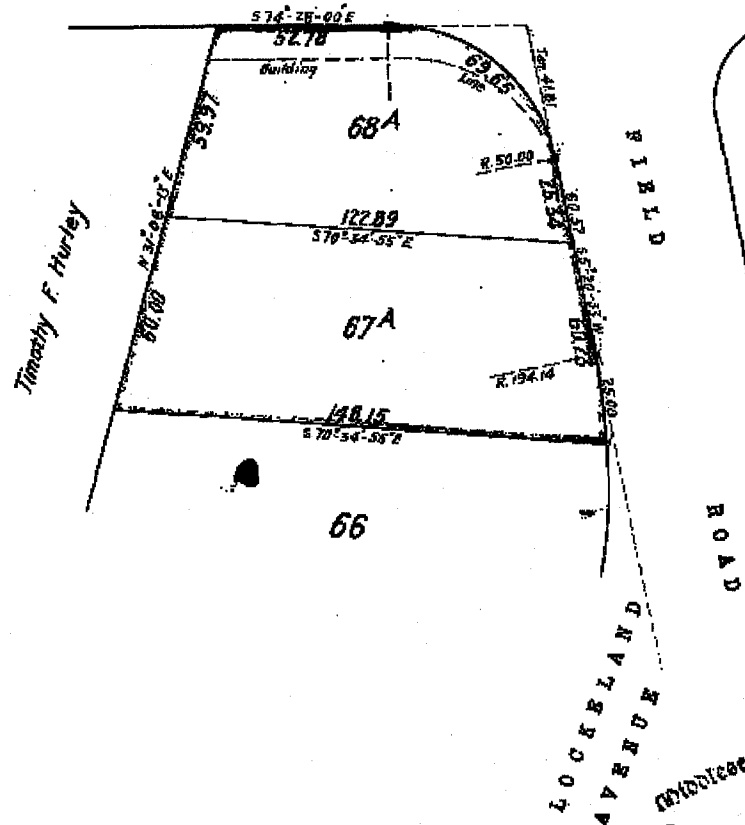
Scale 40 feet to an inch

JUNE 22, 1926

C.R. Gannett, C.E.



MASSACHUSETTS AVENUE



Middlesex South Registry District  
AUG 4 1926  
RECEIVED FOR REGISTRATION  
3 O'CLOCK 10 M  
Jd. 100.

Separate certificates of title may be issued  
for Lots 67A and 68A as shown hereon  
By the Court  
*Charles Southworth*  
JULY 23, 1926 Recorder.

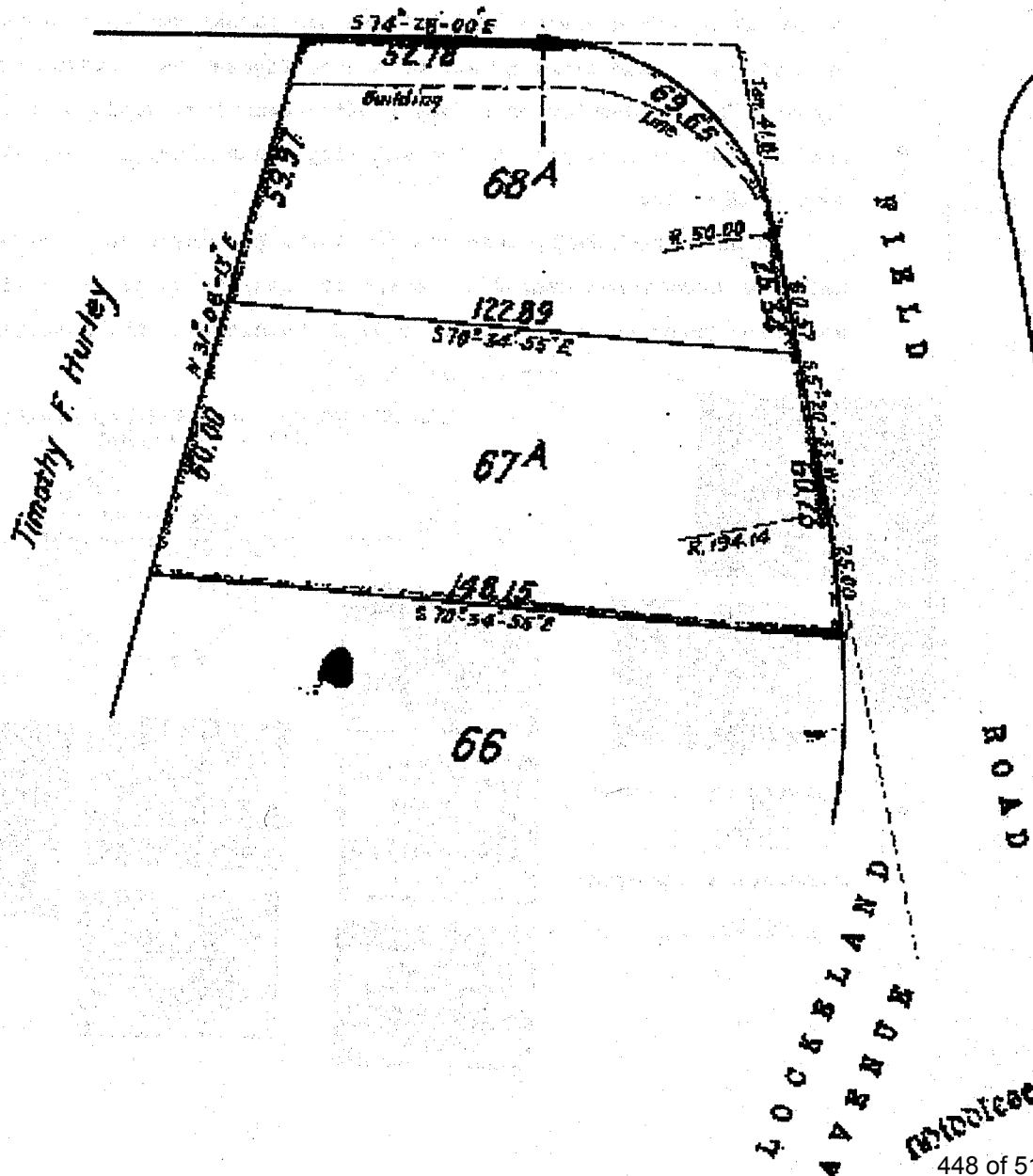
Copy of part of plan  
filed in  
LAND REGISTRATION OFFICE  
JULY 22, 1926  
Scale of this plan 40 feet to an inch  
C. B. Humphrey, Surveyor for Court



JUNE 22, 1926

C.H. Gannett, C.E.

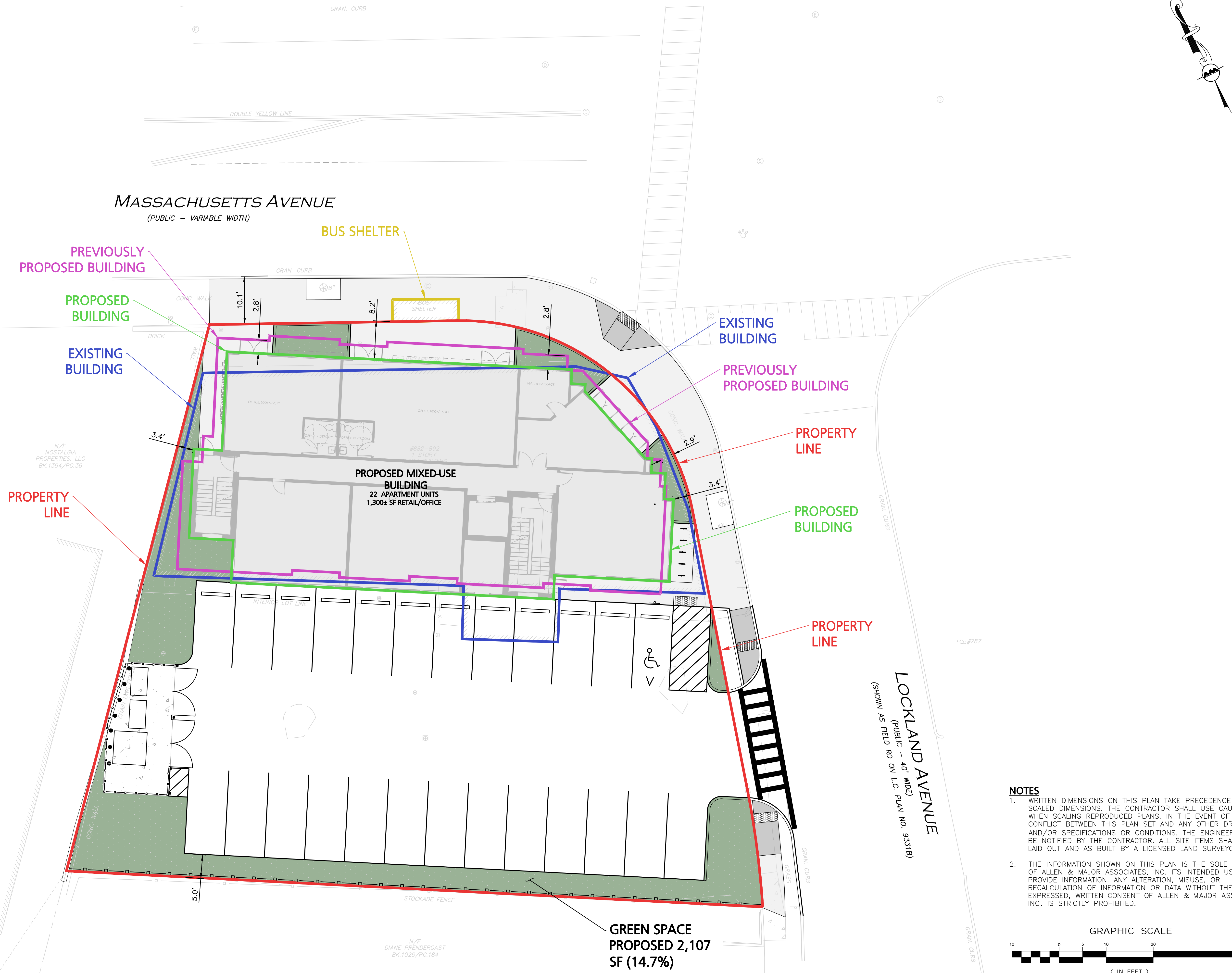
MASSACHUSETTS AVENUE



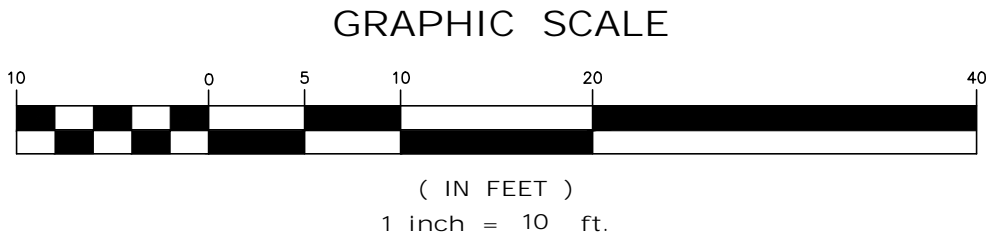
448 of 515 AUG 4  
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R:\PROJECTS\2729-01\CIVIL\DRAWINGS\CONCEPTS\2020-06-23\_BUILDING\_COMPARE\C-2729-01\_LAYOUT & MATERIALS.DWG



- NOTES**
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PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV	DATE	DESCRIPTION
2	06/23/2020	ISSUED FOR ARB
1	04/10/2020	ISSUED FOR ARB

APPLICANT/OWNER:  
882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO.	2729-01	DATE:	04-10-20
SCALE:	1" = 10'	DWG. NAME:	C272901
DESIGNED BY:	ARM	CHECKED BY:	BDJ/RC

PREPARED BY:

**ALLEN & MAJOR ASSOCIATES, INC.**  
civil engineering • land surveying  
environmental consulting • landscape architecture  
www.allenmajor.com  
100 COMMERCE WAY, SUITE 5  
WOBURN MA 01801  
TEL: (781) 935-6889  
FAX: (781) 935-2896

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DRAWING TITLE: <b>BUILDING EXHIBIT</b>	SHEET No. <b>EXH-1</b>
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ZONING SUMMARY TABLE			
B2-NEIGHBORHOOD BUSINESS (MIXED-USE <=20,000SF)			
ITEM	REQUIRED/ ALLOWED	EXISTING	PROPOSED
MINIMUM LOT AREA	-----	14,380± SF	14,380± SF
MINIMUM LOT AREA PER UNIT	-----	N/A	654± SF
MINIMUM FRONTAGE	50 FT	208± FT	208± FT
MINIMUM FRONT YARD SETBACK	-----	0 FT	2.7 FT
MINIMUM SIDE YARD SETBACK	-----	1.3 FT	3.4 FT
MINIMUM REAR YARD SETBACK	20.3 FT	53.6 FT	63.0 FT
LANDSCAPED OPEN SPACE	10%	5.3%	20.1%
USABLE OPEN SPACE	20%	0.0%	0.4%(2)
MAXIMUM HEIGHT	50 FT	13.5± FT	>50
MAXIMUM HEIGHT STORIES	4(1)	1	4
FLOOR AREA RATIO	1.50	0.35	1.23

ZONING TABLE NOTES:

- SECTION 5.3.17, FOR BUILDING MORE THAN 3 STORIES IN HEIGHT, AN ADDITIONAL 7.5 FT STEP-BACK SHALL BE PROVIDED BEGINNING AT THE THIRD STORY LEVEL OR 30 FT ABOVE GRADE, WHICHEVER IS LESS. THE UPPER STORY STEP-BACK SHALL BE PROVIDED ALONG ALL BUILDING ELEVATIONS WITH STREET FRONTAGE.
- SECTION 5.3.21, SUPPLEMENTAL REQUIREMENTS IN THE BUSINESS AND INDUSTRIAL DISTRICTS, D, FOR MIXED USES AND ANY PERMITTED RESIDENTIAL USE NOT SPECIFICALLY IDENTIFIED IN THE TABLES IN SECTION 5.5.2, THE MINIMUM OPEN SPACE REQUIREMENTS (COMPUTED FROM THE RESIDENTIAL FLOOR AREA ONLY) SHALL BE 10% LANDSCAPED AND 20% USABLE IN THE B1, B2, B2A, B3, AND B4 DISTRICTS, AND 15 PERCENT USABLE IN THE B5 DISTRICT. A WAIVER MAY BE REQUIRED FROM THE USABLE OPEN SPACE REQUIREMENT.

PARKING SUMMARY TABLE			
USE	CALCULATION	MIN. REQUIRED	TOTAL PROPOSED
APARTMENT BUILDING	1.15 SPACES PER 1 BED UNIT	21	21
	18 X 1.15 = 21 REQUIRED		
	1 SPACE PER EFFICIENCY UNIT 4 X 1 = 4 REQUIRED	4	4
OFFICE BUSINESS OR PROFESSIONAL	1 PER 500 SF	N/A	N/A
	1,300 SF (UNDER 3,000 SF PARKING N/A)		
		25	25

ADA SPACES REQUIRED:

(15-25) TOTAL PARKING SPACES PROVIDED, 1 SHALL BE THE MINIMUM ADA PARKING PROVIDED, 1 SPACES BEING VAN ACCESSIBLE.

PARKING TABLE NOTES:

- SECTION 6.1.10, C, FOR A MIXED-USE DEVELOPMENT THE FIRST 3,000 SF OF NON-RESIDENTIAL SPACE IS EXEMPT FROM THE PARKING REQUIREMENTS OF THIS SECTION 6.1.
- SECTION 6.1.11, STANDARD PARKING STALLS SHALL BE 8.5'X18', AND COMPACT SPACES SHALL BE 8'X16'(UP TO 20% ALLOWED WITH S.P.). DRIVE AISLE WIDTH SHALL BE 24' FOR TWO-WAY TRAFFIC.

LEGEND

PROP. PROPERTY LINE	---
SIGN	+
BOLLARD	•
BUILDING	[RECTANGLE]
BUILDING ARCHITECTURE	[RECTANGLE WITH DASHES]
BUILDING INTERIOR WALLS	[RECTANGLE WITH DASHES]
CURB	---
PARKING STRIPING	[ZIGZAG]
ROADWAY STRIPING	[ZIGZAG]
SIDEWALK	---
ADA ACCESSIBLE RAMP	[TRIANGLE]
ADA DET. WARNING SURFACE	[HATCH]
SNOW STORAGE	[HATCH]
SAW-CUT LINE	---
PARKING COUNT	(10)
VINYL FENCE	---

NOTES

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PROFESSIONAL ENGINEER FOR  
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2 06/23/2020 ISSUED FOR ARB  
1 04/10/2020 ISSUED FOR ARB  
REV DATE DESCRIPTION  
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452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:  
892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO. 2729-01 DATE: 04-10-20  
SCALE: 1" = 10' DWG. NAME: C2729-01  
DESIGNED BY: ARM CHECKED BY: BDJ/RC

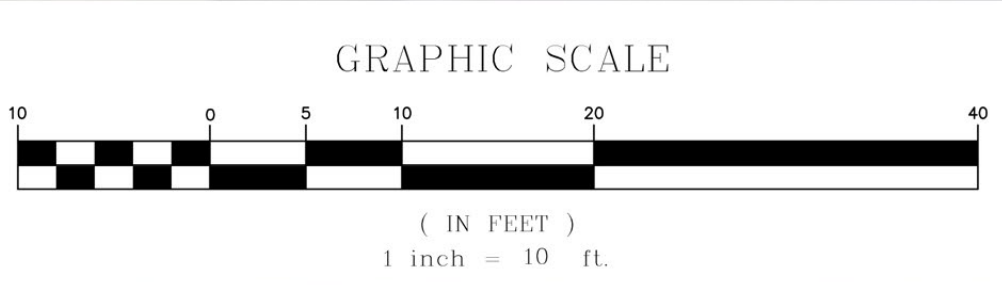
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100 COMMERCE WAY, SUITE 5  
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DRAWING TITLE: LAYOUT & MATERIALS PLAN SHEET No. C-102

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From: Alex Bagnall <alex.bagnall.tmm@gmail.com>  
To: Jenny Raitt <jraitt@town.arlington.ma.us>  
Date: Mon, 18 May 2020 09:47:24 -0400  
Subject: 882-892 Massachusetts Ave

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

Hello Ms. Raitt,

I would like to register my general support for the project at 882-892 Mass Ave. I am in favor of the creation of more housing, including some deeded affordable units, along one of our most walkable and transportation accessible streets. I appreciate that the design includes significant accommodation for bike storage. In all, this seems like a much better use of the lot than the single-story building that is there now.

Best,  
Alex Bagnall



From: Beth Elliott <bmelliott@gmail.com>  
To: jraitt@town.arlington.ma.us  
Date: Mon, 18 May 2020 09:19:39 -0400  
Subject: 882-892 Mass Ave

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Dear Ms. Raitt,

My name is Beth Elliott, and I reside at 98 Highland Ave, Arlington, MA 02476.

Please accept my comments in support of the proposed demolition of the property currently located at 882-892 Mass Ave and its replacement with a multi-story mixed use development. I support this project for the following reasons:

1. It will provide much needed additional housing in Arlington, including affordable units.
2. The scale of the proposed building is consistent with the neighborhood, as there are existing multi-story apartment buildings within one or two blocks on the same side of Mass. Ave. that are the same height or taller than the proposed structure. The proposed set-back of the top floor, in addition, reduces the visual impact of the building from the street.
3. The incorporation of commercial space on the ground floor is consistent with the current usage of the space and will therefore harmonize with existing development patterns.
4. Although the proposal would reduce the sidewalk width, the sidewalk in front of the current building are significantly wider than the sidewalks on the same side of Mass. Ave immediately north and south of the site. Even lessening the sidewalk in the area of the current bus stop would not shrink the sidewalk/bus stop area in a manner inconsistent with other bus stops nearby along Mass. Ave. As a commuter who uses this bus stop frequently, I have no concerns that use of the bus stop will be made more difficult nor pedestrian traffic impeded.
5. This is an excellent site for housing from a transit/walkability perspective, due to the bus stop and the many amenities available within walking distance, such as multiple grocery stores, the Arlington public library, and several local restaurants. The inclusion of significant bike parking, both long and short-term, will also encourage residents to make use of bike travel as well. I would therefore expect the additional traffic generated by this development to be negligible.

Thank you,  
Beth Elliott



From: Bill Rubin <brubin613@gmail.com>  
To: jraitt@town.arlington.ma.us  
Date: Mon, 18 May 2020 19:06:21 -0400  
Subject: 882-892 Mass Ave Project -

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Hello Jennifer,

I hope you, your family and friends are doing well.

I am writing regarding the redevelopment of 882-892 Mass Ave.

There are many issues I have with the project.

One is the size of the project right across the street from another tall building. It gives the feeling and look of being hemmed in; it will have a tight and narrow part of Mass Ave, unlike any other Arlington location, particularly on Mass Ave. It is not a good look or feel.

My main concern is narrowing the sidewalk if this project is going to go through. This project's location has a higher pedestrian volume because of its proximity to the high school and the high-volume bus stop. The wider sidewalks are needed in that area.

Please keep the sidewalks wide!

Thank you for listening.

-Bill Rubin  
10 Bonad Road,  
Arlington, MA 02476



From: Christian Klein <cmqklein@gmail.com>  
To: Jenny Raitt <jrait@town.arlington.ma.us>  
Date: Sat, 16 May 2020 18:37:16 -0400  
Subject: 882-892 Mass Ave - Letter to ARB

**CAUTION:** This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "<>" brackets) and you know the content is safe.

Ms. Raitt,

Please accept the attached letter into the record for the hearing regarding 882-892 Mass Ave. I intend to attend the meeting Monday evening, and I look forward to the opportunity to highlight the concerns raised in my letter.

If you have any questions, please feel free to reply to this email.

Best, and good health,

Christian Klein  
54 Newport Street



May 16, 2020

Christian Klein  
54 Newport Street  
Arlington, MA 02476

Arlington Redevelopment Board  
c/o Department of Planning and Community Development  
Arlington Town Hall  
730 Massachusetts Avenue  
Arlington, MA 02476

Re: 882-892 Massachusetts Avenue

Dear Chairman Bunnell:

Solely as a resident of Arlington who lives in the same precinct, I am writing in regards to the proposed redevelopment of the existing single-story commercial building at 882-892 Massachusetts Avenue. I have many concerns regarding this project as it relates to both statutory compliance and benefit to the adjacent neighborhood where I live. I do believe that this parcel could be further developed. However, the proposal as it stands does not serve the existing neighborhood, nor does it serve its future tenants.

Zoning District Concerns:

The project site is in a B2 Neighborhood District. Per Section 5.5.1.B in the Town of Arlington Zoning Bylaw as amended through April 22, 2019 (hereafter ZBL), this district is “intended for small retail and service establishments serving the needs of adjacent neighborhoods and oriented to pedestrian traffic, and mixed-use buildings. ... The Town discourages uses that would detract from the district’s small-scale business character or otherwise interfere with the intent of this Bylaw.” The existing building conforms very well to this standard. It is comprised of five storefront commercial spaces featuring a variety of services vital to the residents of the neighborhood. There are two restaurants, a local media studio, and a food bank serving the vulnerable members of our community.

By creating a new building with only a single “office” use, it seems only the media studio could reoccupy the building. In regards to microclimate considerations, the Applicant states that “the owner does not contemplate that there will be any installation of machinery which emits heats [sic], vapor or fumes from the site...” The proposed plans do not include any interior shafts leading from the first floor to the roof. As such, no restaurant could move in. It is also unlikely that the space would be amenable to the local food bank.

I do not object to the addition of residential units. To the contrary, I agree that the addition of apartments on this site would be appropriate and desirable. I ask the Board to consider requiring that the ground floor remain exclusively commercial, with the exception of access to the residential units above, to maintain the diversity of small retail and service establishments that exist on the site. To do otherwise would result in a substantial adverse impact upon the character of the neighborhood.

Mixed-Use Concerns:

The ZBL defines Mixed-Use as a “combination of two or more distinct land uses, such as commercial, ... [and] residential in a single multi-story structure to maximize space usage and promote a vibrant,



pedestrian-oriented live-work environment.” (emphasis added). What makes a vibrant environment? Merriam –Webster defines Vibrant as “pulsating with life, vigor, or activity.” This block is already vibrant because of the multitude of different commercial uses, the very active bus-stop, and the ebb-and-flow of high school students. Reducing the number of commercial spaces to only one and closing off the remainder of the Mass Ave. frontage to public engagement makes the building far less vibrant than it is today. I contend this will have a substantially adverse impact upon the character of the neighborhood.

#### Bus Shelter Concerns:

There is a sheltered bus stop on Mass Ave. directly in front of this building. It is a very busy stop serving both residents commuting towards Cambridge and Boston and students heading to the high school. Few of the bus stops on this route have shelters, making this stop special. The shelter fits here because the existing sidewalk is eight-feet wide and the building is set approx. eight-feet back from the property line allowing generous space for pedestrians to pass easily behind the shelter.

The future of the shelter is unclear in the provided documents. Sheet G-101 notes that the Contractor is to “PROTECT AND MAINTAIN [the] EXISTING BUS SHELTER”. This means the shelter remains during construction, with its structure protected against damage. However, sheet C-102 states “EXISTING BUS SHELTER TO REMAIN, REMOVE AND REPLACE AS REQUIRED”. This means that the shelter could stay, it could be removed temporarily and returned, or it could be taken away and replaced with something else. That would be completely unacceptable.

The renderings provided by the Applicant imply that the bus shelter, and for that matter, the entire bus stop are going away. The image on sheet A9.00 does not include the bus stop or bus shelter. Instead, it shows an exposed bench against the building and metered parking spaces on both Mass Ave. and Lockland Ave. This is highly deceptive, because it falsely portrays the space in front of the building. Removing the bus shelter or replacing the bus shelter with something far less protective of riders will have a substantially adverse impact upon the residents of the neighborhood.

#### First Floor and Sidewalk Connection Concerns:

The existing building has a significant connection to Mass Ave. The position of the building eight-feet back from the edge of the sidewalk, allows pedestrians to stop in front of the building to look in through the windows without holding up pedestrian traffic. It allowed patrons waiting for a table at a restaurant to wait outside without blocking the sidewalk. Now, it allows patrons (myself included) waiting for take-out to maintain social distance. That additional space allows high school students to have space to congregate while they wait for the walk signal to cross Mass Ave. It also provides enough space for commuters to stand aside while students disembark from the bus before they can climb on.

The proposed plan shifts the building closer to the street and includes planting beds between the building and the sidewalk to keep pedestrians away from the residential uses on the ground floor. The beds are not in front of the commercial space, allowing pedestrians to come closer to the building. This is essential, because there would not be enough space to move down the sidewalk otherwise due to the bus shelter. The commercial space doors are located to either side of the shelter, which at least maintains a direct egress path from that space. However, the proposal to replace the pedestrian zone residents enjoy today with building and planting beds will have a substantially adverse impact on the pedestrians, bus commuters, and high school students from the neighborhood.

#### Open Space Concerns:



The statement from the Applicant to the Arlington Redevelopment Board (hereafter ARB) indicates that the proposed site plan meets the landscaped open space requirement by providing 10.2% of GFA, 0.2% more than is required by the ZBL. They also note that they are only providing 11.9% of GFA as usable open space, 8.1% less than is required by the ZBL. They indicate that this will require a special permit to remedy.

The Applicant's plans include ZERO usable open space. The definition of Usable Open Space in the ZBL indicates that it is "part or parts of a lot designed and developed for outdoor use by the occupants of the lot for recreation, including swimming pools, tennis courts, or similar facilities, or for garden or for household service activities such as clothes drying; which space is at least 75% open to the sky, free of automotive traffic and parking, and readily accessible by all those for whom it is required. Such space may include open area accessible to and developed for the use of the occupants of the building, and located upon a roof not more than 10 feet above the level of the lowest story used for dwelling purposes. Open space shall be deemed usable only if at least 75% of the area has a grade of less than 8%, and no horizontal dimension is less than 25 feet." (emphasis added) There is no area on this site that meets this requirement.

I do not understand the Applicant's assertion that only a special permit is required to eliminate the requirement for Usable Open Space. Since this would constitute a significant deviation from the requirements of the ZBL, it would appear that a Variance would be required. The Applicant has not addressed the requirements for a Variance.

#### Bicycle Parking Concerns:

The Applicant did make an attempt to comply with the ZBL in regards to bicycle parking. There are short-term spaces in the residential lobby and behind the building at the far end of the parking lot. There are long-term spaces in the basement.

The ZBL notes in Section 6.1.12.B that "Bicycle parking as required by this Section refers to the accessory storage of bicycles (which may include trailers or other customary accessories) in a secure manner that allows for quick and convenient access, storage, and removal of the bicycles by users who are making trips to or from the associated principal use." (emphasis added)

The ZBL differentiates between short- and long-term bicycle parking, noting in Section 6.1.12.C(2) that short-term spaces are "intended primarily to serve visitors, such as retail patrons, making trips of up to two hours to a particular use; however, it may serve other bicycle users as needed. Short-term bicycle parking is typically located in a publicly accessible area near pedestrian entrances to the use they are intended to serve." The short term spaces are located just about as far from the retail entrances as they possibly could be. This is not in keeping with the intent of the ZBL.

The ZBL indicates in Section 6.1.12.C(1) that "Long-term bicycle parking shall be intended primarily to serve residents, employees, and other persons who would require storage of a bicycle for a substantial portion of the day, for an overnight period, or for multiple days." As noted earlier, bicycle spaces are required to "provide quick and convenient access, storage, and removal of the bicycles..." Looking at the proposed floor plans (A1.00 and A1.01), it appears that the procedure for parking a bike in long term storage involves coming in through the corner entrance, through doors into the common corridor, taking the only elevator to the basement, exiting the elevator, avoiding a post nearly in front of the elevator door, and navigating a series of tight turns before arriving at the door to the long-term bike storage. The reverse procedure would be required to take a bike back out. The only alternative is to take the stairs. There is no possible way to describe this as "quick and convenient".



(As an aside, I also note that the Applicant's rendering on sheet A9.01 clearly shows a bicycle being ridden on the sidewalk in violation of Title III, Article 1, Section 5 of the Town Bylaws.)

The locations of the bicycle parking areas do not abide by the requirements of the ZBL and should not be considered acceptable. Indeed, they will have a substantial adverse impact upon the patrons and residents of the building and a substantially adverse impact upon the use of bicycles.

Conclusion:

Throughout this letter, I have pointed to issues with the proposal that pose a substantially adverse impact. As you are well aware, by Section 3.4.3.E of the ZBL, the ARB shall not deny a special permit "unless it finds that the proposed use does not comply with the Environmental Design Review Standards listed below to such a degree that such use would result in a substantial adverse impact upon the character of the neighborhood or the town, and upon traffic, utilities, and public or private investments, thereby conflicting with the purposes of this Bylaw." I believe that a full review of the proposed building project should lead to a finding that the project will have a substantially adverse impact on the neighborhood, and it is in conflict with the purpose of the ZBL.

I do believe there are steps which could be taken to greatly improve the proposal. The Public Hearing Memorandum issued by the Department of Planning and Community Development references a prior application made and approved in 1988 which sought to add up to six two-bedroom apartments above the existing masonry building. I would fully support this approach. It maintains the open space in front of the building. It maintains ground level commercial space on Mass Ave. It preserves the original 1910 façade, an example of early twentieth century commercial building construction. If the Applicant sought to provide eighteen residential units, surely the project would remain viable, and the town would still be able to claim three new affordable units.

Future renderings and elevations should either include the existing bus shelter, or they should include whatever the Landlord is proposing to replace the shelter. Since the shelter is on Town property and may be the property of the MBTA, any change to the shelter will require careful scrutiny by the public.

The Applicant also needs to demonstrate that the project is in compliance with the Commonwealth's accessibility access law (521 CMR). A quick review of the plans indicates that the New Hampshire based architecture firm is unfamiliar with local regulations. It is unfortunate that the Environmental Design Review Standards do not include review of accessibility features.

This might also be a good time for consideration of what post-Covid housing should look like. Is funneling that many residents through limited vertical conveyances a good idea? Should there be an exploration of how to limit the number of interactions between the various apartments to allow the residents to come and go without exposing themselves to their neighbors? These are questions to which I have no answers, but I think it would be valuable to ask the Board of Health for their opinion on this and other future multi-family and mixed-use developments.

I appreciate the good work that you and your Board do on behalf of the residents of Arlington. I look forward to your discussion and deliberation on this proposed project.

Sincerely,

A handwritten signature in black ink, appearing to read 'Christian Klein', with a stylized flourish extending to the right.

Christian Klein

54 Newport Street



From: Don Seltzer <timoneer@gmail.com>  
To: Jenny Raitt <jraitt@town.arlington.ma.us>, Erin Zwirko <EZwirko@town.arlington.ma.us>, Andrew Bunnell <ABunnell@town.arlington.ma.us>, David Watson <DWatson@town.arlington.ma.us>, KLau@town.arlington.ma.us, EBenson@town.arlington.ma.us, rzsemlery@town.arlington.ma.us  
Date: Mon, 11 May 2020 10:32:24 -0400  
Subject: Soil Contamination at 882-892 Mass Ave Docket 3625

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In reviewing the application packet for 882 Mass Ave I am surprised to find that there is no mention of the PCE soil contamination problem that exists at that site. It has been known for at least the last eight years. Active measures such as sub-slab depressurization and air purification systems are currently needed to control the internal vapor levels of PCE. One would think that this is relevant information to include in describing the site and that future mitigation methods would be part of the plans for a new building that places residential units on the ground floor.

Some of the PCE contamination has apparently migrated across Mass Ave towards the High School and the mixed use building at 887 Mass Ave. The latter was a property that was reviewed by this Board just a few years ago. There does not seem to be any documentation for that Special Permit application that addresses possible environmental contamination issues, despite that the site was formerly a gas station for many years during a time when little care was given to disposal of toxic chemicals. It should be of particular concern because the original proposed use has changed from ground floor retail to preschool.

That has frequently been the case for several recent properties that the Board has reviewed. 883 Summer St, the Downing



Square project, and the current application for 1207-1211 Mass Ave are all automotive repair/servicing sites that might reasonably be assumed to have soil contamination issues. Only the Downing Square project submitted documentation relating to that issue.

This suggests that a required element of the Board's Environmental Design Review process should be a specific review item related to local soil contamination conditions.

Sincerely,

Don Seltzer



From: Don Seltzer <timoneer@gmail.com>  
To: Erin Zwirko <EZwirko@town.arlington.ma.us>  
Cc: Andrew Bunnell <ABunnell@town.arlington.ma.us>, EBenson@town.arlington.ma.us, KLau@town.arlington.ma.us, David Watson <DWatson@town.arlington.ma.us>, rzseberry@town.arlington.ma.us, Jenny Raitt <jrait@town.arlington.ma.us>  
Date: Thu, 14 May 2020 15:37:00 -0400  
Subject: Environmental Design Review Docket 3625, 882-892 Massachusetts Ave

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In advance of the May 18 meeting, I offer the following observations regarding the plans submitted for a four story, mixed use building at 882 Mass Ave. There are five significant zoning problems that stand out.

The first problem is with the parking area. Zoning Bylaw 5.3.7, 5.3.21, and 6.1.11 all require a buffer strip along the lot line adjoining the residential lot next door on Lockland. With the stockade fence indicated, the buffer strip must be a minimum of 5 feet wide.

The property is a corner lot. 5.3.8 requires that on the Lockland St side the building setback be 20 feet.

The proposed apartment building requires significant Usable Open Space. There is no area on the lot that meets the definition of Usable Open Space.

5.3.17 requires an Upper Story Step-back beginning at the third floor, not the fourth as shown in the plans

5.3.17 also requires that this Step-back be a minimum of 7.5 feet. Only a very small portion of the proposed building meets



this requirement. It appears that the architect has misinterpreted the bylaw to mean a minimum distance from the front lot line rather the front of the building.

Attached are three figures that illustrate these problems.

Sincerely,

Don Seltzer



# MASSACHUSETTS AVENUE (PUBLIC - VARIABLE WIDTH)

- SECTION 5.3.17, FOR BUILDING MORE THAN 3 STORIES IN HEIGHT, AN ADDITIONAL 7.5 FT STEP-BACK SHALL BE PROVIDED BEGINNING AT THE THIRD STORY LEVEL OR 30 FT ABOVE GRADE, WHICHEVER IS LESS. THE UPPER STORY STEP-BACK SHALL BE PROVIDED ALONG ALL BUILDING ELEVATIONS WITH STREET FRONTAGE.
- SECTION 5.3.21, SUPPLEMENTAL REQUIREMENTS IN THE BUSINESS AND INDUSTRIAL DISTRICTS, D, FOR MIXED USES AND ANY PERMITTED RESIDENTIAL USE NOT SPECIFICALLY IDENTIFIED IN THE TABLES IN SECTION 5.5.2, THE MINIMUM OPEN SPACE REQUIREMENTS (COMPUTED FROM THE RESIDENTIAL FLOOR AREA ONLY) SHALL BE 10% LANDSCAPED AND 20% USABLE IN THE B1, B2, B2A, B3, AND B4 DISTRICTS, AND 15 PERCENT USABLE IN THE B5 DISTRICT. A WAIVER MAY BE REQUIRED FROM THE USABLE OPEN SPACE REQUIREMENT.

**ADA SPACES REQUIRED:**  
(15-25) TOTAL PARKING SPACES PROVIDED, 1 SHALL BE THE MINIMUM ADA PARKING PROVIDED, 1 SPACES BEING VAN ACCESSIBLE.  
PROVIDED 1 SPACES, 1 BEING VAN ACCESSIBLE.

- PARKING TABLE NOTES:**
- SECTION 6.1.10, C, FOR A MIXED-USE DEVELOPMENT THE FIRST 3,000 SF OF NON-RESIDENTIAL SPACE IS EXEMPT FROM THE PARKING REQUIREMENTS OF THIS SECTION 6.1.
  - SECTION 6.1.11, STANDARD PARKING STALLS SHALL BE 8.5'X18', AND COMPACT SPACES SHALL BE 8'X16'(UP TO 20% ALLOWED WITH S.P.). DRIVE AISLE WIDTH SHALL BE 24' FOR TWO-WAY TRAFFIC.

PROP. PROPERTY LINE	
SIGN	—
BOLLARD	—
BUILDING	—
BUILDING ARCHITECTURE	—
BUILDING INTERIOR WALLS	—
CURB	—
RETAINING WALL	—
PARKING STRIPING	—
ROADWAY STRIPING	—
SIDEWALK	—
ADA ACCESSIBLE RAMP	—
ADA DET. WARNING SURFACE	—
SNOW STORAGE	—
SETBACK LINE	—
BASELINE	—
SAW-CUT LINE	—
PARKING COUNT	—
COMPACT PARKING STALL	—
CHAIN LINK FENCE	—
WOOD FENCE	—

## 5.3.8 Corner Lots

**Minimum  
20' Yard  
Setback**

**Where is the usable  
Open Space?**

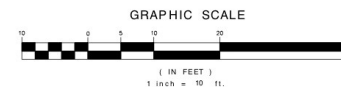
### NOTES

- WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION IN THE EVENT OF A DISCREPANCY BETWEEN THE DIMENSIONS ON THIS PLAN SET AND ANY OTHER DRAWINGS OR CONDITIONS. THE ENGINEER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE DIMENSIONS ON THIS PLAN SET. ALL SITE ITEMS SHALL BE PLACED BY A LICENSED LAND SURVEYOR.

OWN ON THIS PLAN IS THE SOLE PROPERTY OF ALLEN & MAJOR ASSOCIATES, INC. ITS INTENDED USE IS TO PROVIDE INFORMATION AND/OR SPECIFIC USE OF THE PROJECT. NO ALTERATION, MISUSE, OR REPRODUCTION OF THIS DRAWING OR DATA WITHOUT THE WRITTEN CONSENT OF ALLEN & MAJOR ASSOCIATES, INC. IS PERMITTED.

**Minimum 5' Buffer strip**

**5.3.7, 5.3.21, 6.1.11 D**



PROFESSIONAL ENGINEER FOR  
ALLEN & MAJOR ASSOCIATES, INC.

REV DATE DESCRIPTION

APPLICANT/OWNER:

882-892 MASSACHUSETTS AVE, LLC  
452 MASSACHUSETTS AVE, STE 1  
ARLINGTON, MA 02474

PROJECT:

892 MASSACHUSETTS AVE  
ARLINGTON, MA 02476

PROJECT NO. 2729-01 DATE: 04-10-20

SCALE: 1" = 10' DWG. NAME: C2729-01

DESIGNED BY: ARM CHECKED BY: BDJ/RC

PREPARED BY:

**ALLEN & MAJOR ASSOCIATES, INC.**  
civil engineering • landscape architecture  
www.allenmajor.com  
100 COMMERCIAL WAY, SUITE 2  
WOBURN, MA 01801  
TEL: (781) 935-6889  
FAX: (781) 935-2896

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DRAWING TITLE: SHEET NO.

LAYOUT & MATERIALS PLAN C-102

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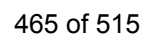




**Upper Story Stepback  
Begins at 3rd Floor**

**5.3.17**







From: Elizabeth Pyle <elizabeth.m.pyle@gmail.com>  
To: Jenny Raitt <JRaitt@town.arlington.ma.us>  
Date: Mon, 18 May 2020 12:23:30 -0400  
Subject: 882-892 Massachusetts Avenue

**CAUTION:** This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "<>" brackets) and you know the content is safe.

Dear Ms. Raitt,

I am writing to provide to comments on the application for 882-892 Massachusetts Avenue, which will be heard by the ARB this evening. Please forward these comments to the Board, and include them in the official record.

I live close to the 882-892 Massachusetts Avenue block, and my family has long enjoyed the Toraya and Thana Thai restaurants that are current tenants of this building. Small restaurants like these make this community (and Arlington) a desirable and convenient place to live, and contribute to the diversity of the area. We are disappointed that the current owners of this building have decided to displace their current tenants, especially at this time when small businesses are suffering so much from the impacts of Covid-19.

As a Town Meeting Member from Precinct 10, I can also report that our community values these restaurants as improving the quality of life in this area, and that my neighbors are upset that these long-time tenants are being forced out in favor of the proposed residential/office development.

The proposed development is too big, contains too many units, is too many stories tall and will detract from the character of the community. This is just the kind of development that this area does not need or want. The proposed building looks like every other generic office or apartment building, and it could be located anywhere in the country. No effort has been made to give it New England character, or to attempt to fit it in with the Arlington community. Coupled with the new 3-story building directly across the street, it will make a canyon of new (undesirable) modern towers on this block of Massachusetts Avenue. If it's anything like the building across the street, the landlord will rent the residential units at high prices, while the first floor office space sits vacant, or poorly utilized, for years. This completely eliminates the vibrant character that currently exists in this neighborhood, and would be a detriment to our community.

In addition, the community is concerned about the environmental impacts of soil contamination at this site and air quality impacts from the proposal -- especially since the new High School construction (in part on contaminated soil) will also be happening in this vicinity. Therefore, to the extent any project is approved, we urge the ARB to require the maximum environmental monitoring of this site, including air quality monitoring, so as not to negatively impact the health of abutters and pedestrians.

In conclusion, I urge you to please deny this application. This type of generic, dense, tall development that displaces valued institutions is not what this neighborhood wants. At a minimum, the building should be reduced by one story in height, it should be set back farther from all sidewalks, the landlord should include commercial space appropriate for restaurants on the first floor (not offices), and it should be redesigned to look more like a traditional New England commercial block with brick or other features common to existing buildings along Massachusetts Avenue.

Thank you for your consideration of these comments.

Sincerely yours,



Elizabeth Pyle  
Town Meeting Member, Precinct 10  
66 Gloucester Street  
Arlington, MA 02476



From: <ARB@HaroldHelson.us>  
To: "Jenny\_Raitt" <jrait@town.arlington.ma.us>, "Erin\_Zwirko" <EZwirko@town.arlington.ma.us>,  
"Joe\_Andrews" <heartsmoon@aol.com>, "Bunnell" <ABunnell@town.arlington.ma.us>,  
"David\_Watson" <DWatson@town.arlington.ma.us>, <KLau@town.arlington.ma.us>,  
"Eugene\_Benson" <EBenson@town.arlington.ma.us>, <rzsembery@town.arlington.ma.us>  
Date: Mon, 18 May 2020 01:43:02 -0400  
Subject: [ARB] Please do not allow zoning exceptions to build ugly

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Dear esteemed ARB members & staff:

In reference to tonight's meeting...

I am troubled by the modern trend of replacing attractive old buildings with extremely ugly new ones. Here in Arlington, the one next to Mystic Wine Shoppe should never have been built. (I have been told there were special factors involved, namely the acceptance of the builder to cope with environmental pollution that made the property undesirable to develop. I don't know about that.)

The ARB should not make exceptions to zoning laws to allow "ugly" buildings to replace stately old ones. The 882 Mass Ave case is one. The loss of the small businesses there I patronized and relied upon is painful, but moreover we *do not want a nonconforming replacement*. It should not be 4 stories tall regardless of the zoning laws. It should have full setbacks. And to the extent this can be dictated objectively, it should be beautiful. What you allow to be built will endure for a hundred years. You want to be careful. We don't want ugly. Maintain aesthetic standards, please.

The reason we live in Arlington is *not* to be surrounded by buildings like the one earlier cited. The reason we live here is *not* because we have crowded in a lot of people, which makes parking and traffic terrible. We do *not* have to increase housing or population in Arlington. The trend we are on will make housing much less affordable, under the pretense of doing the opposite.

The path I fear you are on will destroy the Arlington we love, bit by bit.

I do not mind building or development per se. I strongly mind ugly buildings and increases in population density. If you think that ugly buildings are necessary because pretty buildings are too expensive to build, and building must occur, I take exception. Building does not have to occur at that cost; don't tear down the old building at all.

So please do not grant exceptions to our zoning laws.

Please forgive me for taking up so much of your time, and especially, if I do not have an accurate view of your intentions or reasoning. I'm quite an amateur...but my visceral reaction to the decay of our corridor is well founded I think.

Respectfully yours,  
Harold Helson  
Bartlett Ave



<mailto:ARB@HaroldHelson.us>



From: Mustafa Varoglu <mvaroglu@gmail.com>  
To: jraitt@town.arlington.ma.us  
Date: Sun, 17 May 2020 15:15:14 -0400  
Subject: Environmental Design Review Docket 3625, 882-892 Massachusetts Avenue

**CAUTION:** This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

Dear Ms. Raitt,

I'm writing to comment on the plans for the design of the proposed building at 882-892 Mass Ave. I'm a resident of the neighborhood and in favor of additional housing, but have concerns about specifics of the design at the ground level.

From what I can tell from the plans, the sidewalk between the new building and the Mass Ave curb will be narrowed by 4 or more feet. Just from this point of view this will make Mass Ave less inviting to walk as well as lead to bunching of students going to and from the high school. In front of this building there is an existing bus stop that should remain on this block for convenient access to the local businesses for those without cars. With the bus stop present people will be forced to funnel through a narrow pinch point while out in public which is poor street and pedestrian design. Especially in a post-Covid-19 scenario.

There appears to be an ample parking space in the back, perhaps the building can be moved back the same distance on the property or be made nominally smaller in the north to south dimension by using some of the space of the lot at back. It does not seem right to occupy what is now public space in a heavily trafficked corridor with this new design.

Regarding the new business space, as the landlord is not asking for permits for fumes etc it appears that a restaurant or coffee shop will not be able to occupy this space. This is a pity as we are losing two good restaurants in our neighborhood with this project. In addition, what mitigation is there that the embedded office space will not be converted to apartments in the future, can something be put in writing to have the landlords recognize this conversion is not possible?

Maintaining a streetscape with first floor businesses and inviting pedestrian travel makes Arlington a more attractive place to live.

Sincerely,

Mustafa Varoglu  
26 Shawnee Rd.  
Arlington



From: Patricia Worden <pbworden@gmail.com>  
To: Jenny Raitt <jraitt@town.arlington.ma.us>, "ABunnell@town.arlington.ma.us" <ABunnell@town.arlington.ma.us>, klau@town.arlington.ma.us, ebenson@town.arlington.ma.us, dwatson@town.arlington.ma.us, rzsembly@town.arlington.ma.us  
Date: Mon, 18 May 2020 11:27:16 -0400  
Subject: Testimony for Hearing May 18, 2020

**CAUTION:** This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "<>" brackets) and you know the content is safe.

Testimony of Patricia Barron Worden Re;

Public hearing for Special Permit Docket #3625 to review application by 882-892 Massachusetts Ave., LLC, for 882-892 1 of 275 Massachusetts Avenue, to develop a new mixed-use building with twenty two (22) one-bedroom residential units and one (1) commercial space in a B2 Business District.

Chairperson Bunnell and Members of the Arlington Redevelopment Board

*Please include the following testimony with the other materials pertaining to Special Permit Docket #3625*

Reasons that this project as it is currently described should be denied a permit include the following:

1. 882-292 Mass. Av. is in the B2 district. Arlington Zoning Bylaw specifies as the primary requirement for the B2 Neighborhood Business District that:

it is for "small retail and service establishments serving the needs of adjacent neighborhoods"  
Town of Arlington Zoning Bylaw, Section 5.5.1 B

The plan to eliminate the restaurant and business uses including the Arlington Community Media Studio B and replace them with dense residences with only a tiny room-sized commercial space is clearly not in conformance with the purposes of the zoning district.

2. 5.3.8 may require that on the Lockland Avenue side the building setback be 20 feet since the property is a corner lot.

Also, the plan does not satisfy the Open Space requirement

3. 5.3.17 also requires that The Upper Story Step-back should be a minimum of 7.5 feet. That is not the case for much of the building.

5. The project is antithetical to the premise upon which Mixed Use zoning was presented to Arlington Town Meeting members to secure their approval. It was claimed to be a device for attracting business and commercial interests and having a residential component. It is instead in



this case being used for the opposite purpose of eliminating thriving and taxpaying restaurants and businesses and a studio of importance to the community. It was claimed that any problems with proper adherence to the goals of increasing business and commercial interests would be prevented by the ARB in the Special Permit process. But what is taking place at the May 18, 2020 hearing is using the Mixed Use provision in a barefaced attempt to enable an apartment building very much larger than would be allowed without Mixed Use and to destroy all businesses at the site. For this the proponent's strategy is to include one small room for commercial use. Does the ARB recognize its role in implementing honestly its assurances made of its ability to conduct satisfactory controls through the Special Permit process? If so then this Permit should reflect that or else, ideally, the permit should be denied. In this regard some early warnings indicating necessity for a more appropriate and enforceable Mixed Use provision are prescient – please see:

[https://youtu.be/AO6EYDKnL\\_o](https://youtu.be/AO6EYDKnL_o)



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To:

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For this the proponent's strategy is to include one small room for commercial use. Does the ARB recognize its role in implementing honestly its assurances made of its ability to conduct satisfactory controls through the Special Permit process? If so then this Permit should reflect that or else, ideally, the permit should be denied. In this regard some early warnings indicating necessity for a more appropriate and enforceable Mixed Use provision are prescient – please see:

[https://youtu.be/AO6EYDKnL\\_o](https://youtu.be/AO6EYDKnL_o)



From: Zeke Brown <zeke@brownfenollosa.com>  
To: Jenny Raitt <jraitt@town.arlington.ma.us>  
Date: Mon, 18 May 2020 16:36:09 -0400  
Subject: 892 Mass ave

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Hello Jenny,

I'm not sure how best to make comments on this evening's hearing for 22 single bedroom apartments on the Toraya site. I do have a couple of observations. Maybe they are entered into the project or meeting notes...

For background, I am an architect, a resident of the Town for more than 15 years and nearly a neighbor to this site. I also have an office in town and I drive by this building almost daily. It is a very prominent site.

1. To call this 'mixed use' is not really accurate. It is an apartment building with an absolute maximum number of units pressed onto the lot with a very small 'office' space on the first level to gain the mixed use qualification. To further elucidate the point- there is actually an apartment and a bedroom which has the exact same relationship to the sidewalk (and bus stop) as the office space right next to it! And the situation repeats itself on Lockeland Ave... It seems that as a town we should be asking if this is how we want to give over space which sits very prominently within the public realm.
2. The sidewalk. The existing building steps back and has a very generous sidewalk in front of it. I often see people lingering here because of this extra space. It is a feature which is critical to good civic space (and it is good for business). In direct contrast, the building across the street has a sidewalk that barely allows a person with a stroller to pass another pedestrian without being forced to move out of the way. I have never seen anyone linger over there despite multiple entrances along the street and it being a daycare center. To further my point there is lots of space in front of the Blue Ribbon BBQ building and again, it is inviting, gives refuge and relief from the vehicular dominated roadway and it encourages people to linger. I think it would be a big mistake to press this new building so close to the street and turn our sidewalks into narrow thoroughfares rather than generous public spaces that actually encourage small business activity.
3. What is the office space going to be? An office which puts block-out shades in the windows and turns its back to the town? Why not make a fantastic restaurant space that opens to the street and is inviting and will make all the singles who live in the building actually want to move here? Why give the most prominent corner to the residential lobby instead of something which opens to the street and Mass ave, like a cafe? Give the business use on the first level the locations which can activate the streetscape.
4. And finally, is it possible to insist on commercial leases with programming that actually gives back to the greater community? We are losing a great restaurant, a media center, food link and other small shops. I think it would be a real missed opportunity to have another unfriendly and totally private facade jammed right up to the very edge of the sidewalk along this stretch of Mass ave. Have we not learned anything from the building across the street?

I am not anti development by any stretch. I just see an unfortunate pattern to much of it which minimizes civic engagement and responsibility in favor of shorter term gain. This stretch of Mass ave is way too important to not have a broader conversation about how the development of the site will give back to the community in exchange for being permitted to put up an entirely new building.

Many thanks and I hope you are well.



z

--

Zeke Brown  
Architect

**BROWN FENOLLOSA ARCHITECTS INC**

197 Broadway Arlington MA 02474

p.781.641.9500 c.617.461.8191

[zeke@brownfenollosa.com](mailto:zeke@brownfenollosa.com)

[www.brownfenollosa.com](http://www.brownfenollosa.com)





## Town of Arlington, Massachusetts

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### Discussion: Thorndike Place Comprehensive Permit

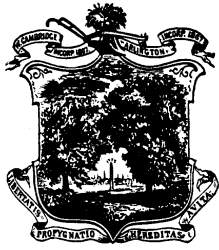
#### Summary:

8:00 p.m. Board members will discuss and may vote to update letter to ZBA

#### ATTACHMENTS:

Type	File Name	Description
▣ Reference Material	Agenda_Item_2_-_ARB_comments_to_ZBA_9-27-16_final.doc	ARB comments to ZBA 9-27-16 final





## ARLINGTON REDEVELOPMENT BOARD

TOWN HALL, ARLINGTON, MASSACHUSETTS 02476

781 - 316 - 3090

September 27, 2016

Pamela Heidell, Chair  
Zoning Board of Appeals  
Town of Arlington  
51 Grove Street  
Arlington, MA 02476

RE: Arlington Land Realty, LLC Application for a Comprehensive Permit to develop  
Thorndike Place – Comments to the Zoning Board of Appeals

Dear Ms. Heidell and Members of the Board,

To aid the Arlington Zoning Board of Appeals (ZBA) in their review of the Arlington Land Realty, LLC Application for a Comprehensive Permit to develop Thorndike Place, the Arlington Redevelopment Board (ARB) met on Monday, September 26, 2016 to discuss the project and provide comments. The ARB has the following comments and questions on the proposed project, organized by topical issue:

1. **Wetland Impact, Restoration, and Access:** The ARB defers to the Conservation Commission on measures that can be used by the developer to protect the wetlands. However, has the following questions and concerns:
  - a. Is the designated 11.5 acre open space publicly accessible? If not, then what will be the restrictions on public access?" Will structures, such as a boardwalk or pathway, be built and by whom? Locations and access points for the proposed wetland paths should be confirmed. We recommend access from Thorndike Field, as well.
  - b. How will the existing wetlands be cleaned and modified?
  - c. How will the wetlands function following clean-up? How will the flow of water through the wetland be improved and what are the related impacts of these improvements downstream?
  - d. If the 11.5 acres are deeded or permanently restricted, who will own and maintain the wetland after occupancy? The ARB recommends that the Open Space Committee engage in discussions with the developer with the goal of preserving and providing public access to this open space resource.
  - e. With additional residential development occurring along Route 2 in Cambridge and Belmont, what are the cumulative impacts on stormwater and the wetlands?
2. **Traffic, Circulation, and Access:** The ARB defers to the Transportation Advisory Committee (TAC) on matters relative to traffic and circulation. TAC conducted a



thorough review of the Traffic Impact Assessment Study (TIAS) and provided a comment letter to the ZBA. The ARB has the following questions and concerns:

- a. A new TIAS should be conducted to take into account a number of issues:
    - i. Lake Street is one of the most congested streets in Arlington. The ARB is concerned about added traffic on this street and in the neighborhood. A revised TIAS should adequately consider the project's impact on Lake Street.
    - ii. The developer should consider direct access from the project to Route 2. With additional residential development occurring along Route 2 in Cambridge and Belmont, what are the cumulative traffic impacts? A revised TIAS should consider the recently built and planned development in Cambridge and Belmont along Route 2. If Route 2 access is considered as an option for the project, then the TIAS should fully explain the impacts of traffic with and without the route 2 access.
    - iii. The TIAS should take into account the heavy use of Thorndike Field by sports teams after school, overlapping with the evening peak traffic hour.
  - b. The application includes a high parking ratio of 1.4 spaces per housing unit. The ZBA should request information about the reasoning and justification for this amount of parking. The ARB recommends that Transportation Demand Management (TDM) be applied to this project. TDM is recommended to reduce vehicle use on the site, and also increase the use of transit, bicycles and walking. In relation to TDM matters:
    - i. What on-site amenities will the developer provide to encourage bike use, e.g. covered bike parking?
    - ii. What is the connectivity between the project and the bike path, bus, and subway transit routes? How will residents be able to connect with those amenities? Will the pedestrian overpass on Route 2 be restored to encourage access? What is the projected bike path use and ridership as a result of this project?
3. **Design:** The ARB has the following questions and concerns:
- a. The ZBA should request full-size plans. The following design documentation should be provided: site plan, floor plans, (all levels,) with building dimensions, building sections with floor to floor and overall building height dimensions, building façade elevations with materials indicated and specified, building massing / 3-D views, building mechanicals and placement of mechanicals with noise estimates and hours for testing for generators and similar, parking plan, lighting plan and landscaping plan. The massing plan should show the view along Dorothy Road. A building model would also be useful for understanding overall site impact and scale and samples of the actual building materials and colors should be provided.
  - b. The raised front porches of the proposed houses along Dorothy Road, as well as the style of the fences on the porches, create an image of the houses being closed-off from the sidewalk, street, and neighborhood. An alternative, more



open interface between the houses and their surroundings should be considered.

- c. The developer should consider moving the houses closer to the street with vehicle access to the rear. This could create more open space and community gathering areas.
- d. The developer should consider applying LEED ND guidelines in planning and development for the site.
- e. The ARB would appreciate the ability to provide further comments on the design as plans progress.

**4. Affordable Housing:** The ARB has the following questions and concerns:

- a. The Town (ARB and Board of Selectmen) recently adopted a Housing Production Plan (HPP) that outlines affordable housing needs. Per the HPP, the ARB recommends that all units are deed-restricted as affordable in perpetuity. Further, per the Town's Inclusionary Zoning requirements, the ARB recommends that the affordable units are dispersed throughout the development and comparable to market rate units in terms of quality and character, room size, and external appearance. Parking for affordable units should also be comparable in location and appearance to parking for market rate units.
- b. The HPP identified the need for housing for middle-income households (110% of area median income or \$280,000 for two-bedroom unit and \$325,000 for a three-bedroom unit). The ARB recommends that at least one or two of the for-sale condominiums be available and affordable to middle-income households. Additionally, the ARB would prefer more for-sale housing units at all price points—market, middle-income, and affordable to households earning at or below 80% of the area median income.
- c. The developer should provide the Affirmative Fair Housing Marketing Plan to determine the market for these units, pricing and marketing of all units.

The ARB is available to discuss any of the above comments and questions with the ZBA. We would appreciate the opportunity to discuss the project design further with the ZBA and with the developer.

Thank you for your consideration of the ARB's comments and questions.

Sincerely,

Andrew Bunnell  
Chair





## Town of Arlington, Massachusetts

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### Presentation and Discussion: Whittemore Park renovations

#### Summary:

8:30 p.m. Representatives from Crowley Cottrell and the Department will provide a project update.  
Board members will discuss

#### ATTACHMENTS:

Type	File Name	Description
▣ Reference Material	Agenda_Item_3_-_200629_ARB_Meeting_r.pdf	ARB Meeting 06292020



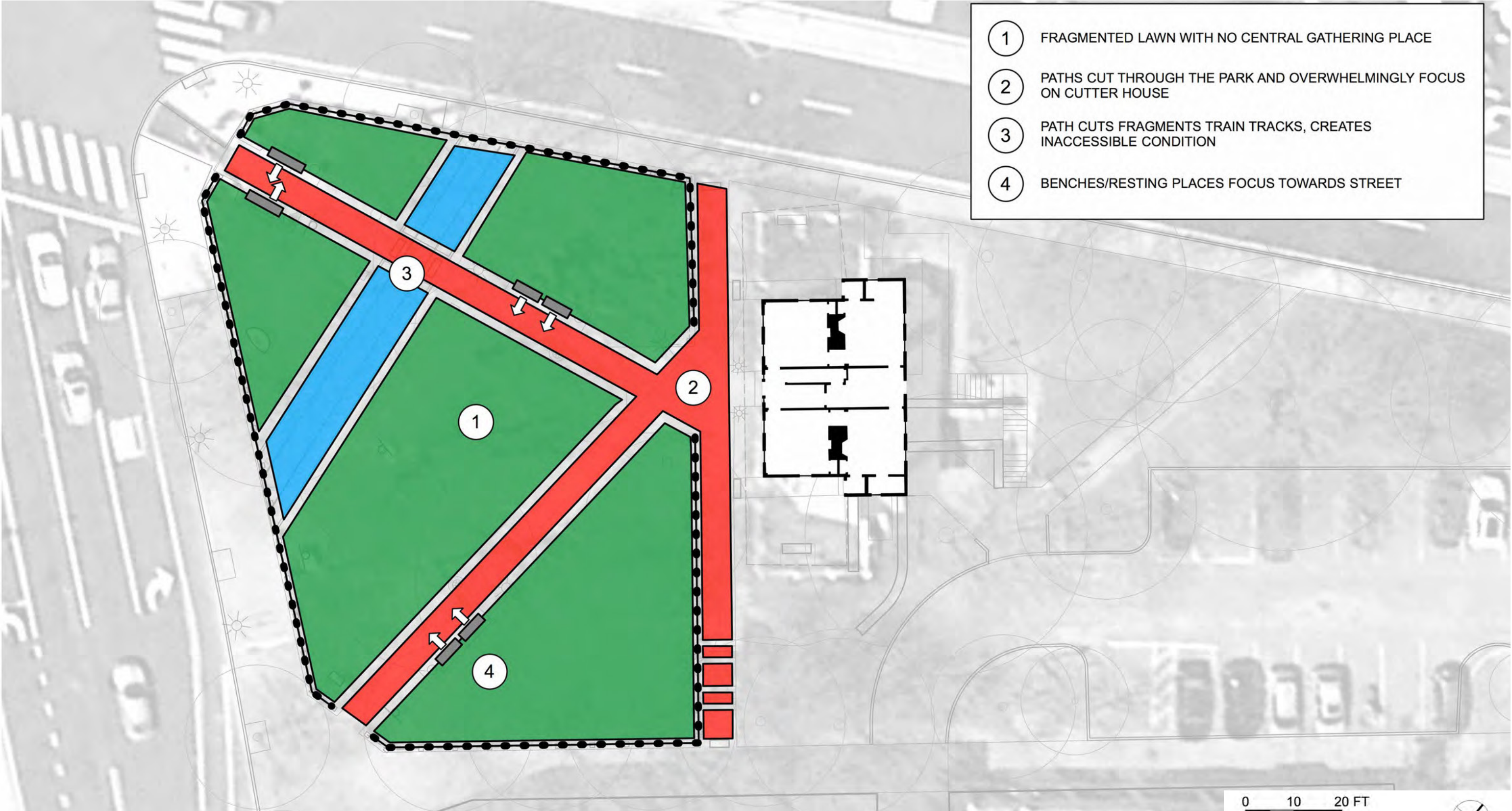
# PROJECT GOALS

- Improve circulation in the park
- Increase visibility and prominence of the park
- Cultivate opportunities for passive recreation, programs, and events
- Enhance historic, cultural, and natural landscape in Arlington Center
- Create a park that is democratic in that it could be used by many types of people
- Create a park that is flexible in that it could be used use for many kinds of activities
- Create a park that is beloved, inspires stewardship, and is culturally appropriate for town



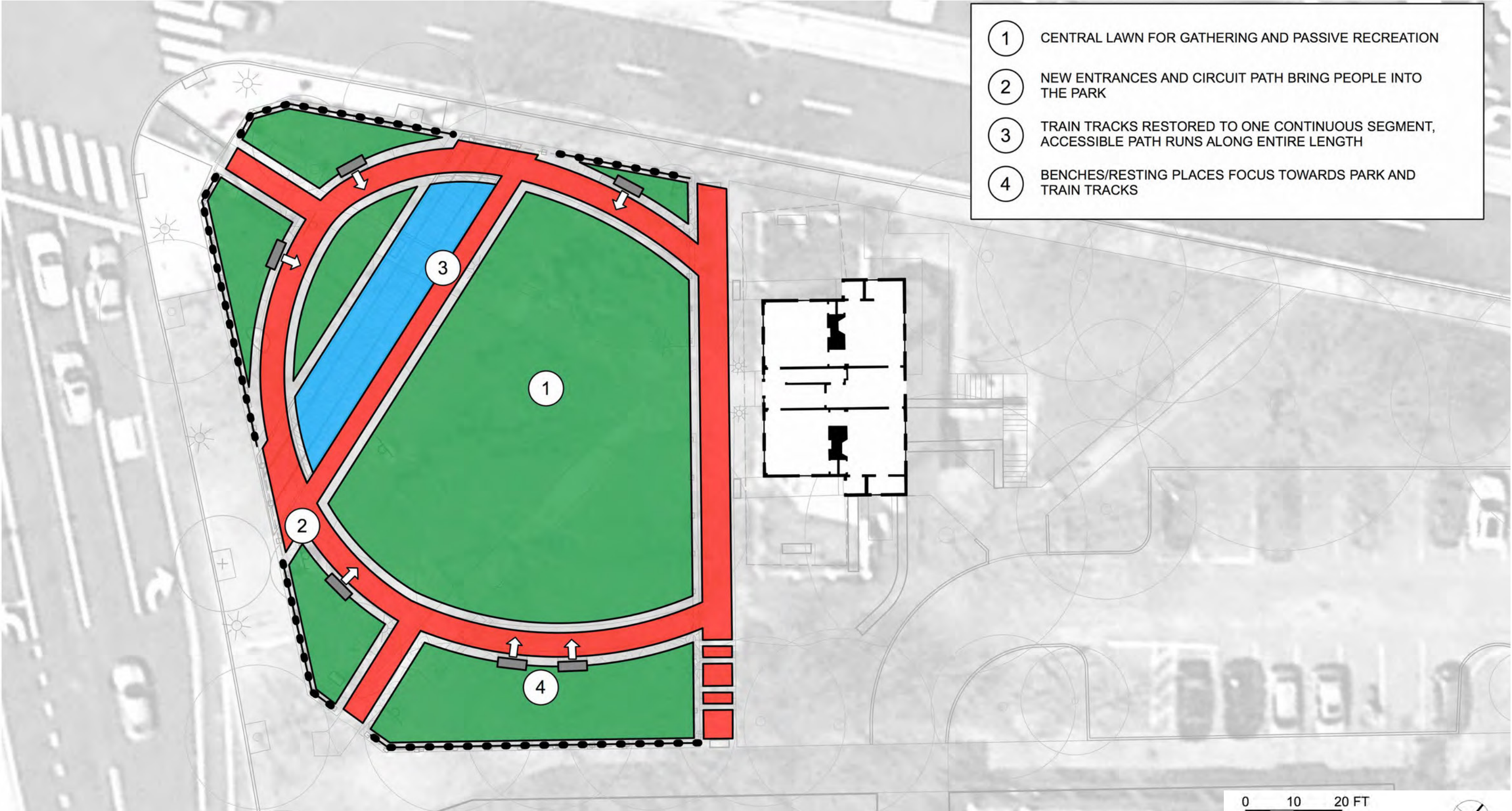


# DIAGRAM-EXISTING





# DIAGRAM-PROPOSED



















Resin-bound aggregate paving between existing tracks.



Changes in color and indication of tracks in paving.







**Canopy Trees**

- Thornless Honeylocust
- Tuliptree
- Swamp White Oak

**Mid-Size Trees**

- Yellowwood

**Flowering Ornamentals**

- Hawthorn
- Redbud



*Cercis canadensis*

Redbud



*Cladrastis kentukea*

Yellowwood



*Crataegus viridis*

Hawthorn



*Gleditsia triacanthos* var. *inermis*

Thornless Honeylocust



*Liriodendron tulipifera*

Tuliptree



*Quercus bicolor*

Swamp White Oak



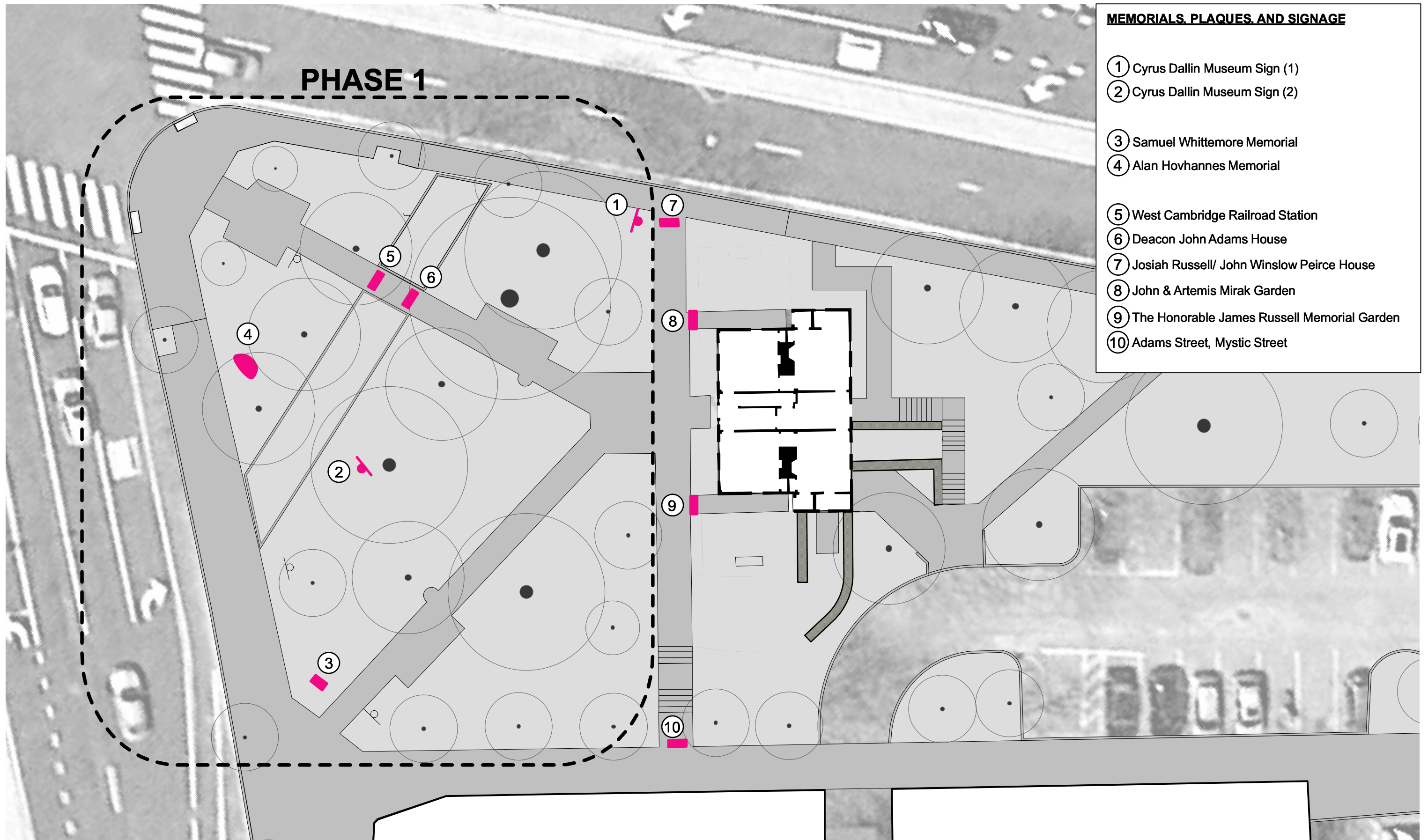
**Native Deciduous Shrubs**  
Summersweet  
Dwarf Fothergilla  
Oakleaf Hydrangea

**Native Evergreen Shrubs**  
Inkberry

**Groundcovers**  
Vinca  
Dwarf Fragrant Sumac



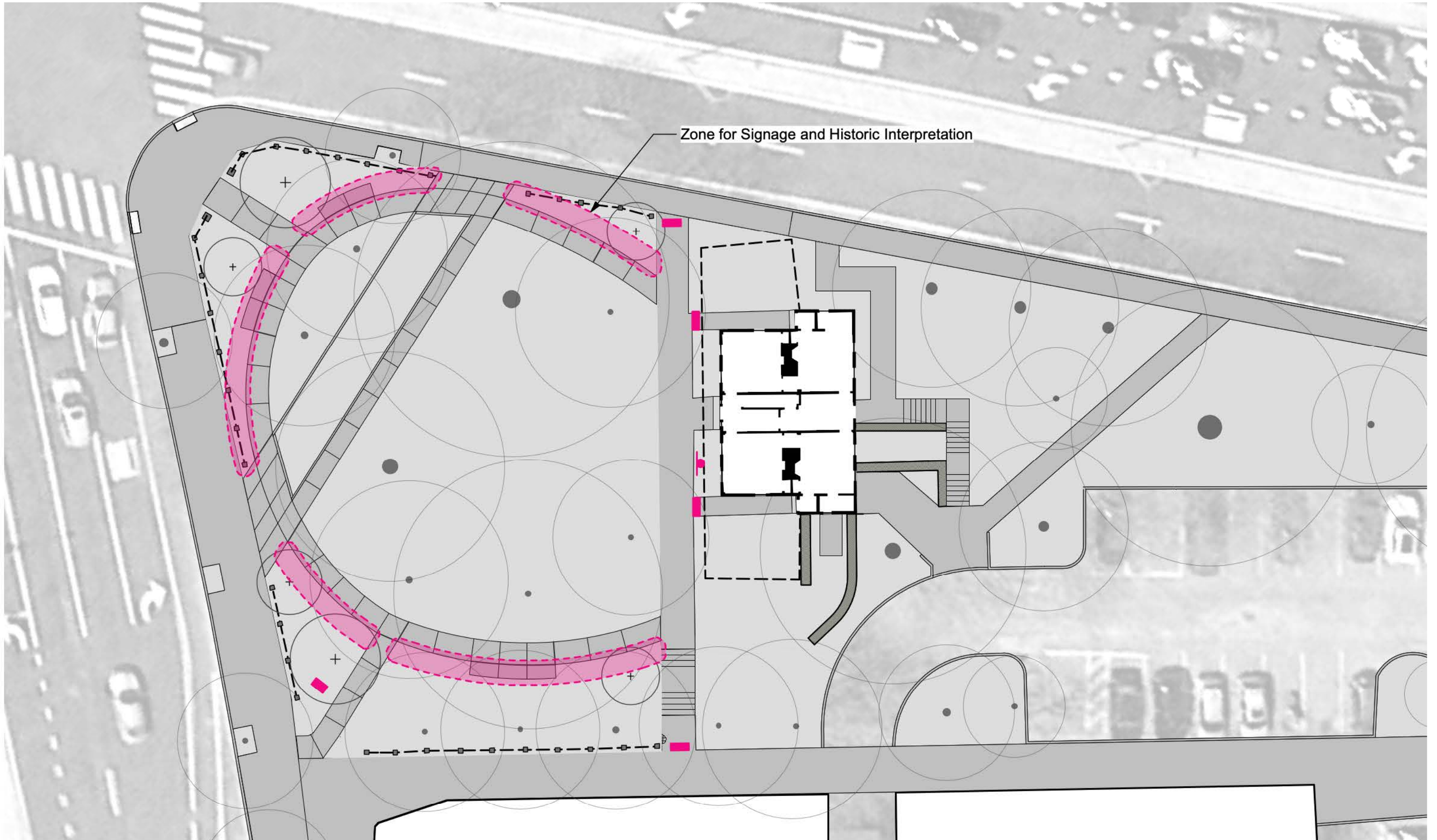




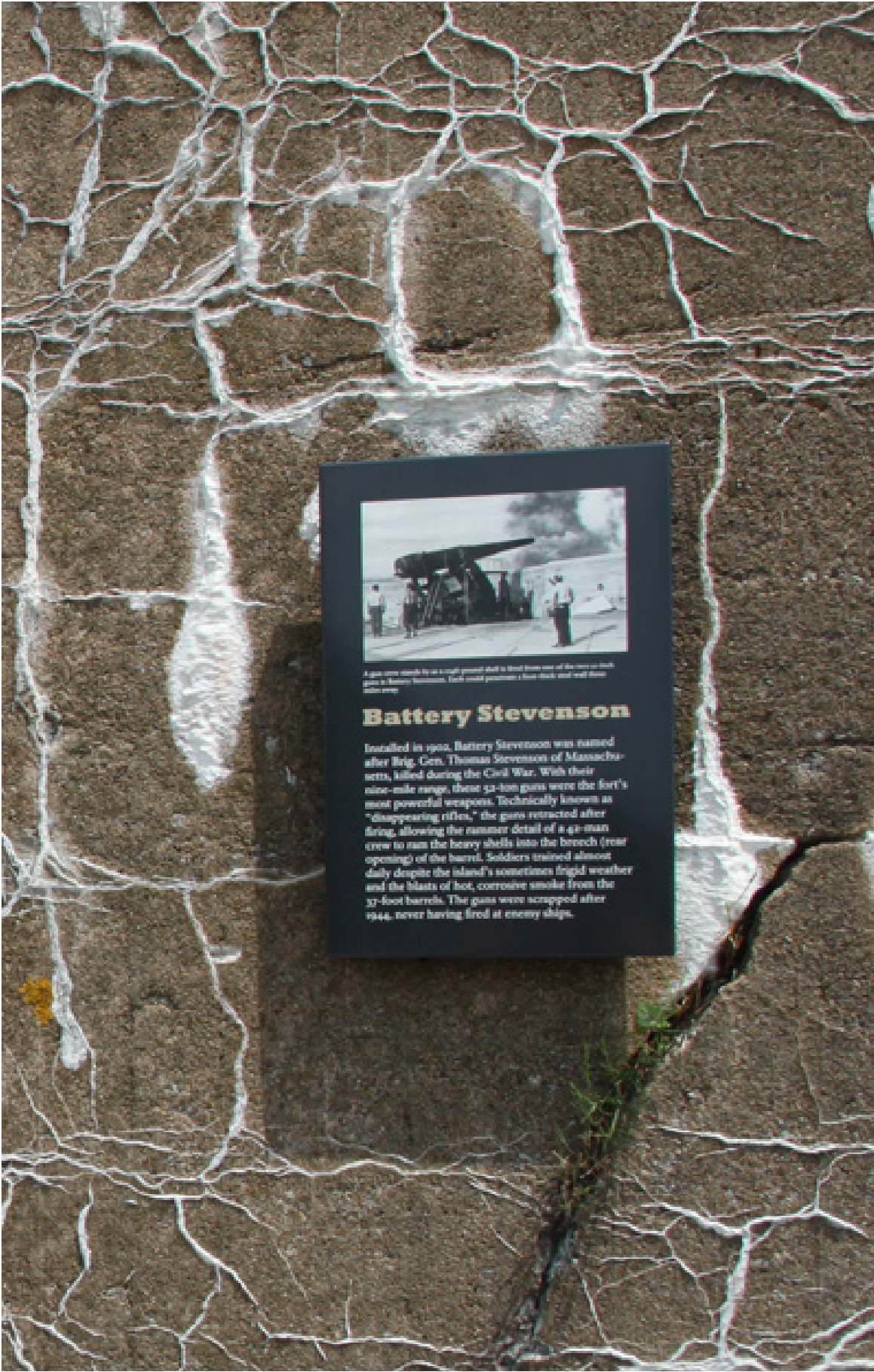
**MEMORIALS, PLAQUES, AND SIGNAGE**

- ① Cyrus Dallin Museum Sign (1)
- ② Cyrus Dallin Museum Sign (2)
- ③ Samuel Whittemore Memorial
- ④ Alan Hovhannes Memorial
- ⑤ West Cambridge Railroad Station
- ⑥ Deacon John Adams House
- ⑦ Josiah Russell/ John Winslow Peirce House
- ⑧ John & Artemis Mirak Garden
- ⑨ The Honorable James Russell Memorial Garden
- ⑩ Adams Street, Mystic Street















FURNISHINGS











## Town of Arlington, Massachusetts

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### Appointment: Housing Plan Implementation Committee

#### Summary:

9:00 p.m. Board members will vote on appointment

#### ATTACHMENTS:

Type	File Name	Description
▢ Reference Material	Agenda_Item_4_-_Michelle_Shortsleeve_HPIC_Appointment.pdf	Michelle Shortsleeve HPIC Appointment



Ms. Erin Zwirko  
Assistant Director  
Department of Planning and Community Development  
730 Mass Ave. Annex  
Arlington, MA 02476

Dear Erin,

I am writing to apply for a position on the Town of Arlington Housing Plan Implementation Committee (the “Committee”). As a former high school teacher in an urban setting, a former intern at The Community Builder, an affordable housing developer, and the owner of a two-family home on East Arlington, I bring a keen interest in community development. As a commercial real estate attorney at Goulston & Storrs in Boston focused on multifamily development, I will contribute an important skillset to the Committee. I hope you will seriously consider my application.

I see that the Committee is currently advancing a Bylaw Amendment implementing a municipal Affordable Housing Trust Fund, and considering a Real Estate Transfer Fee. I imagine the Committee will also work on renewing DHCD’s certification of the Town’s Housing Production Plan, which expires on October 6, 2021. I would be excited to work on these initiatives.

My work at Goulston with developers, investors, tax-credit investors and municipal staff and officials will help me research the Committee’s initiatives in an educated manner, consider them from multiple perspectives, and communicate effectively with disparate stakeholders. Over the past year, I represented a developer in securing a Comprehensive Permit in a town outside of Boston. We worked closely with town staff to plan traffic and infrastructure improvements, and helped the town secure a Safe Harbor under 40B. Given these benefits, the development was permitted in a largely amicable manner. The housing production plan was key to achieving safe harbor, and an important vision guiding the Planning Department and the ZBA throughout our meetings, hearings and deliberations. It would be a privilege to contribute to such a tool in Arlington, and to help implement it by generating funding from sources like the Affordable Housing Trust Fund and a potential real estate transfer fee.

I hope to get involved with local government in Arlington, and hope you will consider my credentials. I look forward to meeting you via Zoom.

Sincerely,

Michelle Shortsleeve



**MICHELLE SHORTSLEEVE**  
7 WHITE STREET APT 1 • ARLINGTON, MA 02474  
MSHORTSLEEVE@GMAIL.COM • (617) 823-9363

**EDUCATION**

- Boston University School of Law, J.D., *magna cum laude*. GPA: 3.84** **May 2018**  
Honors: Paul J. Liacos Distinguished Scholar, 2016-17 (awarded to top 15 students in second year class)  
*Public Interest Law Journal* (2016-18; Note Editor, 2017-18); Faculty Appointment Committee;  
Public Interest Scholar (full-tuition scholarship based on academic merit and commitment to service)
- Yale University, M.A. in Urban Education Studies** **May 2010**
- Dartmouth College, B.A., *cum laude*, in History. GPA: 3.63** **June 2007**  
Activities: Varsity Lacrosse (NCAA Div. I Final Four, 2005 and NCAA Div. I Championship, 2006)  
Study Abroad: Madrid, Spain: Universidad Complutense, 2006

**EXPERIENCE**

- Goulston & Storrs, Boston, MA. *Associate; Summer Associate*** **Oct. 2018 – Present; June-Aug. 2017**
  - *Zoning and Land Use*: Analyzed, drafted memoranda and advised developers on state and local regulations including M.G.L. Ch. 91, Boston Zoning Code, and municipal codes; facilitated client meeting with and hearing before local historical commission to permit solar array; in concert with client, consultants and town staff, drafted waiver list, mitigation plan and ZBA decision for 320-unit 40B development (now under construction)
  - *Acquisitions, Dispositions, Financing*: analyzed and advised clients on title, survey and diligence matters, negotiated title exceptions and affirmative coverage with title companies; drafted conveyance, authority and ancillary loan documents for acquisitions, dispositions, refinancings, lines of credit; managed closing logistics
  - *Tax Credit Work*: Drafted purchase, donation and guaranty agreements, reviewed DOR submission packages
  - *Pro Bono*: Represented tenant in eviction/rent-withholding/conditions case and secured agreement with BHA
- Boston Office of Fair Housing and Equity, Boston, MA. *Investigations & Enforcement Intern*** **Jan.-May 2017**
  - Investigated claims by interviewing constituents, drafting discovery requests, and reviewing responsive documents
  - Researched fair housing law and wrote cause and no cause determinations to close investigations
- Boston University School of Law Civil Litigation Clinic, Boston, MA. *Student Attorney*** **2016-17**
  - Represented clients in Boston Housing Court and before the Department of Unemployment Assistance
  - Researched and wrote memoranda on Massachusetts employment, landlord-tenant and family-law issues
- The Community Builders, Boston, MA. *Legal Department Intern*** **May-Aug. 2016**
  - Researched and wrote memoranda outlining HUD and IRS standards, tax, nuisance and easement law
  - Drafted letters to HUD and city agencies requesting action on permit applications and compliance disputes
- Achievement First Amistad High School, New Haven, CT. *US and AP World History Teacher*** **2011-15**
  - As Lead Planner, wrote curricula that synthesized AP standards, literacy goals, and culturally-relevant content
- New Haven Academy High School, New Haven, CT. *Humanities Teacher*** **2010-11**
  - Developed curricula for and taught U.S. History, U.S. Labor History and World Religions to 9th-12th graders
- OC&C Strategy Consultants, Boston, MA. *Associate Consultant; Summer Associate*** **2008-09; 2006**
  - Analyzed information technology cases using cold-calling, market research and excel modelling
- Jesuit Volunteer Corps Northwest, Ashland, MT. *Dorm Assistant, St. Labre Indian School*** **2007-08**
  - Tutored and mentored Crow Indian students boarding at St. Labre Indian School

**FUN FACTS**

- **Assabet Valley Girls Ice Hockey, Concord, MA. Won National Championship, Squirt A Div.** **1997-98**





## Town of Arlington, Massachusetts

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### Meeting Minutes (4/27, 5/4, 5/18)

#### Summary:

9:20 p.m. Board members will review and approve meeting minutes.

#### ATTACHMENTS:

Type	File Name	Description
▣ Reference Material	Agenda_Item_6_-_04272020_Draft_ARB_Minutes.docx	04272020 Draft ARB Minutes
▣ Reference Material	Agenda_Item_6_-_05042020_Draft_ARB_Minutes.docx	05042020 Draft ARB Minutes
▣ Reference Material	Agenda_Item_6_-_05182020_Draft_ARB_Minutes.docx	05182020 Draft ARB Minutes



**Arlington Redevelopment Board**  
**Monday, April 27, 2020, 7:00 PM**  
**Meeting Conducted Remotely via Zoom**  
**Meeting Minutes**

This meeting was recorded by ACMi.

**PRESENT:** Andrew Bunnell (Chair), Kin Lau, Eugene Benson, David Watson, Rachel Zsebery

**STAFF:** Jennifer Raitt, Director of Planning and Community Development and Erin Zwirko, Assistant Director

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The Chair called the meeting to order and notified all attending that the meeting is being recorded by ACMi.

The Chair explained that this meeting is being held remotely in accordance with the Governor's March 12, 2020 order suspending certain provisions of the Open Meeting Law G.L. c. 30A, Section 20. This order from Governor Baker allows for meetings to be held remotely during this time to avoid public gatherings.

The Chair introduced the first agenda item, Continued Public Hearings. The Chair said that the Board will take Docket #3348, 833 Massachusetts Avenue, for the Atwood House first. Bob Annese attorney for the proponent, Jeff Noyes owner, Monty French Architect. Submitted plans sent to ARB with an updated proposal that states the Atwood House would have to come down. They need to go in front of the Historical Commission and file for a demolition permit with the Town. Monty French opined that even though the building is structurally sound it would not be feasible to rehab the building. Mr. Annese said the Atwood House is on the list of historically significant buildings. Mr. Annese said that at this point they have to determine if they will apply for a demolition permit and meet with the Historical Commission. The plans are for a mixed-use building with residential and commercial space. Mr. Annese asked for the Board's guidance with going ahead with applying for a demolition permit. Mr. Annese said that he submitted a memo as requested regarding the jurisdiction of the Historical Commission. The Chair said that he is appreciative of the efforts that Mr. Annese has put forward and at this time the board should close this hearing and Mr. Annese should apply for a demolition permit and submit an EDR package to the Department of Planning and Community Development. Mr. Annese said that the applicant is prepared to do that.

Mr. Lau said that he agrees with The Chair and we can talk more about the building itself. Mr. Watson said that he agrees and appreciates what Mr. Annese has tried to do with the building moving into a new appropriate process with other Committee's in Town to review and comment is the best way to go at this moment. Mr. Benson said he agrees with some additions; he does not have a final opinion whether the building should be demolished or rehabbed. Mr. Benson would like to have some conditions if the Board closes this hearing so the project can move forward quickly. Mr. Benson said that he would like to have the demolition permit or EDR application to rehab the existing house within 30 days. Ms. Zsebery said that she agrees with Mr. Benson, her concern is the timeline after this hearing is closed. Mr. Annese said that he believes that they need more 30 days given COVID-19. Mr. Annese said that he would like to consult with Mr. French and thinks that a 90 day period may be more reasonable. Mr. French said 90 days seems more appropriate at this time. Mr. Benson asked for an explanation of the steps to file a demolition permit and why it would take more than 30 days. Mr. Annese said that he cannot get into to meet with the Building Department in person at this time business must be done via email. Mr. Annese said he cannot predict the obstacles he will encounter during this health crisis. Ms. Zsebery said that 90 days is the absolute maximum she would consider. Mr. Benson said perhaps the Board should consider 60 days since the Town is open for business, they are just not conducting meetings in person. Ms. Raitt said that if the Board is only requesting to file the demo permit application, then 30 days is a feasible timeline. Mr. Benson suggested that the demo permit application must be filed within 30 days or 60 days to file an EDR permit if the proponent decides to rehab the building. The Chair said that in the interest of moving this project to the next point the plans filed for this meeting will not be reviewed.



The Chair opened the floor to members of the public to comment.

Patrice Smith commented that in order to raise your hand in a Zoom meeting one must select participants.

John Worden said that it is outrageous that after years of moldering away, in the middle of this unprecedented pandemic that this building must be taken care of in such a hurry. If it is possible to have someone move this house. It should be rehabbed before making the house available to move. Mr. Atwood was a doctor that helped so many residents during the last epidemic. Mr. Worden said that he would like to hold off on decisions until meetings can resume in person.

Mr. Benson said that the Board is not approving the project. The proponent has a right to request a demolition permit or submit plans to the Board for approval. Ms. Raitt said that the Town is still working during this unusual time and the proponent would be submitting applications at this time, which could take up to a year due to the demolition delay.

Mr. Watson said that it is not fair to say that this is not a real meeting. The Board is conducting business during this time as outlined by the Commonwealth and Town.

Mr. Seltzer asked to be on video. The Board said that Town Counsel advised not to allow share screens during Board meetings. Mr. Seltzer said that he wanted to present something but if he is unable to see his face Mr. Seltzer declined to comment.

Mr. Benson motioned to close the hearing with the following conditions: Either within 30 days to file a demolition permit or within 60 days to file an EDR application if they intend to renovate the house. If the house is demolished, then an EDR application with plans for the site must be filed within a month. Mr. Lau seconds, all approved 5-0.

The Chair introduced the next item, Docket #3616, 434 Massachusetts Avenue. Charlie from Vital Signs representing the proponent from Taipei-Tokyo. Charlie reviewed the updated sign proposal. Ms. Zsembery said that removing the lettering on the left hand sign brings the sign closer to adherence with the sign by-law. Mr. Benson said that he thinks the changes are not enough. Mr. Benson said that he thinks that the center logo meets the definition of a sign as described in the by-law. Mr. Lau said he agrees with Ms. Zsembery. Mr. Lau said he feels the center panel is not a distracting from the rest of the building. The signage does not follow the by-law by the letter but Mr. Lau does not want to put an undue burden on this business. Mr. Watson said that he watched the last hearing where this signage was discussed. Mr. Watson said that this may be a grey area whether the center panel is artwork or a sign. Mr. Watson said that he will give the proponent leeway since they have worked so closely with the Board. The Chair said that he is comfortable with the Department's view that the center sign is artwork. Mr. Benson said that he appreciates the Board's position but he is afraid this may set a bad precedent going forward. Ms. Zsembery said that while she understands Mr. Benson's view, there is room with artwork to complement a sign. Ms. Zsembery said her concern about removing the artwork is that the artwork is actually over the entry to the restaurant. Mr. Benson moved to approve the revised sign proposal as submitted. Ms. Zsembery seconded, approved 4-1 (Mr. Benson opposed).

The Chair introduced the third hearing, Docket #2818, 880 Massachusetts Avenue. Jason Parillo with Back Bay Signs is representing the proponent. Mr. Parillo gave an overview of the proposed TD Bank directional sign. Mr. Parillo proposed sign that is not designed to be illuminated to comply with Town sign by-laws. Ms. Zsembery said she is recusing herself due to potential conflict of interest. Ms. Zsembery said that she has a business relationship with TD Bank. Mr. Lau asked if the proposed sign is larger than the current sign. Mr. Parillo said that this sign is slightly larger. Mr. Lau said he is concerned about the size of the sign closest to the residential area. Mr. Lau said he would either like the sign moved to the public corner or to make the sign smaller if it remains so close to the residential area. Mr. Watson said if the sign is larger than what the by-law allows, the sign should then be made smaller. Mr. Benson said he is not concerned about the placement



but the sign dimensions should be in compliance sign by-law requirements. The Chair opened the floor to public comment.

Michael Smith 10 Lockland Ave. said he is concerned about the up lighting on the existing sign and wanted to double check that the new sign will not be illuminated in any way. Mr. Parillo confirmed the sign would not be illuminated.

Mr. Parillo said that he thinks he can work with the staff and have updated drawings within a week. Ms. Raitt said that the next hearing date would be May 18<sup>th</sup> and Ms. Raitt said that the Board would need the revised plans a week before that hearing. Mr. Lau motioned to continue this hearing until May 18<sup>th</sup>, seconded by Mr. Benson, approved 4-0 (Ms. Zsembery abstained).

The Chair introduced the second agenda item, Discussion and Vote. Ms. Raitt said that currently Town Meeting has to be a formal, in person meeting. A bill to allow a virtual meeting has not yet been approved. Town Meeting would only focus on financial issues as a budget has to be approved by Town Meeting by the new fiscal year. Warrant Articles, Town by-law amendments, resolutions, and actions would be taken up at a future Town Meeting. Ms. Raitt shared a supplemental memo which outlines language to use for the Board's vote, which is recommended by Town Counsel and the moderator. The Chair said this would ensure that any citizen proponent articles are not stalled by the two year limitation under 40A and gives the Board a chance to review their own articles that have to be discussed. This vote would put those articles on hold and allows for further public discussion. Mr. Benson moved that vote that articles 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, and 47 be referred to the Redevelopment Board for further study and all such articles be placed on the warrant for the next Annual or Special Town Meeting by the Redevelopment Board, whichever occurs first. For such meeting also not intended to be a limited meeting purpose due to the emergency recommendation with whatever recommendations that the ARB deems appropriate. This action is being taken due the extraordinary circumstances due to the current COVID-19 pandemic and emergency. Mr. Watson seconds, approved 5-0.

The Chair introduced the next agenda item, Director's updates. Ms. Raitt said that the Department continues to work on current projects such as the Sustainable Transportation Plan, Net Zero Plan, and the economic analysis of Arlington's industrial districts. Ms. Raitt will be able to announce dates that the engagement events will be held, whether public or virtual meetings. Ms. Raitt said at this time the Board should be focusing on the Master Plan, Economic Development, and thoughtfully continue the conversations with the community. Ms. Raitt asked the Board to provide any guidance about any other topics that the Department should consider. Ms. Raitt said everyone should be thinking about how the business community can recover from the pandemic. Ms. Raitt notified the Board that the Town has received additional CDBG funds for rental assistance, micro-enterprise assistance, and social service agencies dealing with the effects of the pandemic.

The Chair introduced the next agenda item, Meeting Minutes for 2/24/2020 Mr. Benson moved to accept the 2/24/20 meeting minutes, Ms. Zsembery seconded, approved 4-0 (Mr. Watson abstained as he was absent on 2/24/20.)

Ms. Zsembery moved to accept the 3/2/2020 meeting minutes, Mr. Lau seconded, approved 5-0.

The Chair introduced the last agenda item, Open Forum. The Chair opened the floor to the public no comments

Mr. Lau moved to adjourn, Mr. Watson seconded, approved 5-0.

Meeting adjourned.



**Arlington Redevelopment Board**  
**Monday, May 4, 2020, 7:00 PM**  
**Meeting Conducted Remotely via Zoom**  
**Meeting Minutes**

This meeting was recorded by ACMi.

**PRESENT:** Andrew Bunnell (Chair), Kin Lau, Eugene Benson, David Watson, Rachel Zsebery

**STAFF:** Jennifer Raitt, Director of Planning and Community Development

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The Chair called the meeting to order and notified all attending this Zoom meeting that the meeting is being recorded by ACMi.

The Chair explained that this meeting is being held remotely in accordance with the Governor's March 12, 2020 order suspending certain provisions of the Open Meeting Law G.L. c. 30A, Section 20. This order from Governor Baker allows for meetings to be held remotely during this time to avoid public gatherings.

The Chair asked if anyone would like to speak to please use the raise hand function and the Chair will allow time to speak during the Open Forum portion of the meeting. The Chair said that going forward speakers will be unmuted and may be on video if they like.

The Chair introduced the first agenda item, ARB Property Update. Ms. Raitt said that the Town was waiting for the State to issue construction site COVID-19 precautions and guidelines. After reviewing, them we are now signing the contract and issuing a notice to proceed on Monday May 11, 2020. The first part of the Central School Renovation Project will take place on the second floor and the ground and first floor renovations will follow. Mr. Lau asked what the premium to proceed with the current protocol will cost. Ms. Raitt said that Health and Human Services have reviewed the protocols and anticipate that it will be approximately an additional \$20,000.00, which would come from contingency. Mr. Lau said that due to increased costs, some of his projects have asked to hold off until the extra procedures are not required. Mr. Lau asked if delaying the project has been considered. Ms. Raitt said the Town has already postponed signing the contract and are ready to proceed. Ms. Raitt said that they would likely have to hire a new designer if the project is significantly delayed. Mr. Watson asked what the cost implications would be if the project must start over. Ms. Raitt said that they must release the bond of \$7.8 million for the project, submit a new RFP, and pay the fee to hire a new designer. The Town has already spent funds on designer and OPM services.

Ms. Raitt said she would like to discuss the request for proposals timeline and process for the 23 Maple Street property. The tenant lease is ending on June 30, 2020 and all space in the building will become available. Ms. Raitt said that the tenant at 23 Maple Street is currently the highest paying tenant in the portfolio at \$52,800.00 annually. This property is Zoned as R7 and has 10 dedicated parking spaces behind the building. Ms. Raitt said that she needs to issue a RFP to request proposals from prospective tenants and will need one or two members of the Board to review the RFP proposals received. Ms. Raitt said that the process may start in July. The Chair asked about the state of the current tenant and if there were any changes due to COVID-19. Ms. Raitt said that the tenant is scheduled to move out at the end of the lease and at that point Ms. Raitt said can evaluate property conditions. Mr. Lau asked what the building may be used for. Ms. Raitt said that it will probably be used as office space. Ms. Raitt would like to consider what would be a good fit for the neighborhood and would look for a management plan from potential tenants. The Chair volunteered to assist on the RFP committee.

Mr. Watson moved to approve The Chair's nomination to the RFP Committee for 23 Maple Street, Mr. Lau seconded, approved 5-0.



Mr. Lau moved to approve the Department's submittal of an RFP for the 23 Maple St. property, Ms. Zsembery seconded, approved 5-0.

The Chair introduced the last agenda item, Open Forum. The Chair opened the floor to the public.

Don Seltzer presented a visualization of the Hotel Lexington on Mass. Ave. from the perspective approaching from the west. Mr. Seltzer said he found irregularities in the picture. (Mr. Seltzer shared his screen to show the images of this area of Mass. Ave that he discussed.) Mr. Seltzer compared the telephone poles in the images against the Town's GIS data to show irregularities in the developer's visualization. Ms. Zsembery said that the building department relies on the actual plans and elevations, not photoshopped images provided by the developer.

Michael Ruderman said that he sent correspondence to the Board regarding the Board's policy of concealing images of participants during remote Zoom meetings. Mr. Ruderman asked why this is the Board's policy, why it is preferable to not allow full participation of the public, what is the risk of doing so, and when the Board adopted this policy. The Chair said that the policy is at his discretion and the Board will continue to review the policy as meetings go forward. The Chair said that anyone who wishes to speak may do so. Mr. Lau said it is never the Board's intention to censor anyone. The Board is learning as we move forward and is looking to prevent incidents like what happened during the Conservation Committee meeting ("Zoombombing"). Mr. Ruderman said that his comments are being presented at a lesser value than other commenters.

Michael Quinn, The Council on Aging Board Chair, thanked the Board for the Central School Renovation project update. Mr. Quinn said he looks forward to updates going forward and offered help if there is anything the Council on Aging can do to move progress along.

The Chair said that he feels that the current way meetings are being run is the best way. Mr. Benson said that he finds it helpful to see the person speaking and there are limited numbers of thumbnails with video available. There are advantages of having the speaker on the screen, and not others in attendance. Mr. Benson also said he likes to see materials on the screen during meetings but would like to review materials and visit sites in advance. Ms. Raitt said that any public comments are currently due by noon the Friday before the meeting. Mr. Benson said it would be helpful to spend some more time with materials before the meeting. Ms. Zsembery said that she agrees with Mr. Benson that it would be helpful to have more time to review visuals in advance. The Chair said Open Forum is to bring items that are outside the current schedule and it would be best to submit materials to be shown during a meeting by Friday at noon. Ms. Raitt suggested asking to have all visuals be received by noon on Friday and written comments must be received by noon on Monday before meetings.

Mr. Lau moved to adjourn, Mr. Watson seconded, approved 5-0.

Meeting adjourned.



**Arlington Redevelopment Board**  
**Monday, May 18, 2020, 7:00 PM**  
**Meeting Conducted Remotely via Zoom**  
**Meeting Minutes**

This meeting was recorded by ACMi.

**PRESENT:** Andrew Bunnell (Chair), Kin Lau, Eugene Benson, David Watson, Rachel Zsebery

**STAFF:** Jennifer Raitt, Director of Planning and Community Development, and Erin Zwirko, Assistant Director

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The Chair called the meeting to order and notified all attending that the meeting is being recorded by ACMi.

The Chair explained that this meeting is being held remotely in accordance with the Governor's March 12, 2020 order suspending certain provisions of the Open Meeting Law G.L. c. 30A, Section 20. This order from Governor Baker allows for meetings to be held remotely during this time to avoid public gatherings.

The Chair asked if anyone would like to speak to please use the raise hand function and the Chair will allow time to speak during the Open Forum portion of the meeting. The Chair said that going forward speakers will be unmuted and may be on video if they like.

The Chair said he would take the agenda items out of order and introduced the second agenda item first, discussion and vote in order to discuss the schedule for upcoming meetings. Ms. Raitt proposed that June 8, 2020 at 7:00 PM be the next meeting date. Mr. Lau motioned to hold the next meeting at 7:00PM on June 8, 2020, Mr. Watson seconded, approved 5-0.

Ms. Raitt said that there will be a joint ARB Select Board meeting in July and she will provide that meeting date when it is available.

The Chair introduced the first agenda item, Public Hearings. Docket #3625 882-892 Mass. Ave. Bob Annese has asked for a continuance in order to reconfigure designs after receiving feedback from members of the public. The Chair said that he agrees that businesses should not be displaced for new construction. Mr. Lau said he reviewed what was submitted and found that modifications are needed and there should be more commercial space on the ground floor. Mr. Lau would like the applicant to consider limiting parking and limiting ground floor housing units. Mr. Lau said he would like to see the corner lot with side elevation facing Lockland Ave, including adding more windows. Mr. Lau asked that updated elevations be submitted with the surrounding buildings for more context and rethink the curb cuts. Mr. Benson said he also had concerns about narrowing the sidewalk and the lack of usable open space and landscape. Mr. Benson asked the applicant to consider a solar roof and electric charging station in the parking lot. Mr. Watson agreed that the loss of commercial space is unfortunate and would like to maintain existing or increase the proposed commercial space. Mr. Watson said that the plan for bicycle parking is not in compliance regarding both amount and type of bicycle parking. Mr. Watson said he would like the redesign to incorporate aspects of the existing structure or the current look and feel of the existing structure may be an interesting approach. Ms. Zsebery agrees that there are a lot of challenges with the proposed commercial space. Ms. Zsebery would like the developer look at materials including much more detail than the initial proposal.

The Chair said the mixed-use properties that have been developed in town so far have developed blighted properties. The Chair said that the intent of redevelopment was not to eliminate or reduce the number of businesses. The Chair asked that Mr. Annese meet with the Department and with Ms. Zsebery or Mr. Lau to review the Board's concerns about the initial designs. Mr. Annese said that there is a phase 3 contamination study on the site. The development will move to phase 4 once the building is demolished. Mr. Annese said an EDR decision from 1988 allowed building on top of the existing stores. Mr. Annese said that this B2 zone is an orphan zone, neighboring a higher density residential zoning district, including a



building with 4 plus floors with 33 residential units. This development would be consistent with the residential building next door. Mr. Annese said that the existing tenants are not being asked to leave but all of the leases in the building have expired. Mr. Annese said that the property owner has been discussing other location options with the current tenants. Mr. Annese said that the addition of 22 units will further the Governor's and Town's objectives of having more residential units in town. Mr. Annese said he would meet with Mr. Lau or Ms. Zsembery for guidance and will present an updated design at the next hearing. Mr. Benson said he is glad that Mr. Annese mentioned the site remediation and asked for a proposed timeline for the demolition and the remediation project. Mr. Lau volunteered to meet with Mr. Annese to review plans.

The Chair opened the floor to public comment and asked participants to raise their hands electronically in the Zoom meeting if they would like to speak. Steve Revilak said he concurred with the Chair's comments. It would be nice to retain a full first floor of retail space. Mr. Revilak said he was glad to hear Mr. Annese's client is considering proposal for more housing that will complement the neighboring building. Mr. Revilak said that smaller studio and one bedroom units are lacking in town. Carl Wagner said he appreciates the Board's feedback regarding the proposed development. Mr. Wagner said he is concerned that the new mixed-use building will look like the building across the street. Mr. Wagner said that perhaps the mixed-use law should be changed if these types of buildings are being approved. Christian Klein wanted to confirm that written comments will be forwarded to the developer for inclusion. The Chair confirmed that written comments that the Board received have been made part of the record and made available to Mr. Annese to share with the developer. Jim Kempf said he liked a lot of the comments from the Board and would like to see 22 single units, but he is concerned about increased traffic and lack of parking. Mr. Kempf asked if the bus stop will be removed or moved since he does not see the bus stop in the plans. Mr. Kempf said that part of the Town's character is given up when buildings are built too close to the sidewalk and have limited green space. The Town's future aesthetic should be considered. Michael Ruderman said he agrees with Board's response that a lot of work needs to be done along with accurate site plans. Mr. Ruderman said that that is not true that all leases have been expired. Mr. Ruderman, Treasurer of ACMi, says that ACMi Studio B's lease has not expired. The lease expires in August with two additional three-year lease extensions through 2026. ACMi invested a large amount of money, estimated at \$70,000, to turn the space into a television studio. Mr. Ruderman said that ACMi was not aware of the site contamination when they began their lease in 2012. Patrice Smith said she is concerned about the height of the building, and would like to see shadow studies, groundwater studies, studies that show the impact of run off or flooding of neighboring properties, traffic impact studies, and an explanation of the proposed set back. Ms. Raitt asked members of the public to forward her written comments to share with the Board. John Worden said that he thinks this is not a fair public meeting if he cannot see or hear the meeting due to technical issues. Mr. Worden agrees that the proposed development does not have enough commercial space and that the ground floor should be commercial space. Judy Alexander asked about traffic patterns when both this project and the high school's construction are both being conducted at the same time. Mr. Annese said that is something that will be looked at and addressed for the next meeting along with the lease information.

Norman McLeod executive director for ACMi supported Mr. Ruderman's comments. Mr. McLeod understood that the lease was long enough to update the studio, now ACMi must find space to accommodate the specialized studio equipment. Mr. McLeod said that ACMi has not had contact with the applicant regarding finding a new location. Mr. McLeod said when he received the letter stating the building would be razed there was no documentation included to show that the EPA required it. Mr. McLeod said all he had heard about the environmental issue was that three years ago the space failed an air quality test, was tested again two years ago and passed. Mr. McLeod said he then received the letter that the building should be razed. Mr. McLeod said he would like to see that documentation from the EPA. The Chair said that the Board will continue to accept written comments and the new plans will be posted by the Board.



Mr. Lau motioned to continue this hearing for Docket # 3625 to July 6, 2020 at 7:00 PM, Mr. Watson seconded, approved 5-0.

The Chair introduced continued hearing for Docket #2818, 880 Mass. Ave. Back Bay Signs, Jay Parillo, explained that sign EO5 in the package now meets the requirements in the by-law. Mr. Benson moved to approve the sign, Mr. Lau seconded, approved 4-0 (Ms. Zsembery abstained).

The Chair introduced the continued public hearing for Docket #3602 1207-1211 Mass Ave. Mary O'Connor represents 1211 Mass Ave Realty Trust. Ms. O'Connor asked to address several zoning issues including the classification of property as mixed-use. Bonus FAR calculations will be submitted to the Board. She also stated that the restaurant use would not be included in the calculation for parking spaces and they are seeking a parking reduction to 56 spaces. Ms. O'Connor said that there is no issue regarding the 4<sup>th</sup> floor step-back. Ms. O'Connor said that Mr. Doherty is ready to submit updates to the Board. Ms. O'Connor said that items 1 and 2 are not yet available to present to the Board.

Mr. Watson said he thinks there are two issues regarding the upper story step-back, if the set-back needs to start at the third or fourth floor. Mr. Watson said his concern was whether the depth of the step-back can be altered from the 7.5 feet called for in the zoning by-law since the applicant has proposed splitting the set-back over several floors. Mr. Benson agrees with Town Counsel's finding that the by-law should read the 4<sup>th</sup> floor. Mr. Watson said he is glad to hear the applicant is moving forward with the traffic study since there was a recent fatal bicycle accident on Appleton Street.

Mr. Watson asked about the square footage for public access space and a draft of what the public easement would be, set-backs must meet the set-backs for Clark Street and would like to know why Ms. O'Connor thinks the hotel should have the requirement waived. Mr. Lau said that Clark Street is considered the front yard set-back. Mr. Lau said that the average front yard set-back in the area is 6 to 7 feet and the hotel meets that requirement. Mr. Benson asked about the parking valet parking being only for overnight guests of the hotel and not for restaurant guests, Mr. Benson would like to see that explanation in writing. Mr. Lau asked to review what Ms. O'Connor will be providing going forward. Ms. O'Connor said that all of the items are included with Ms. Raitt's memo dated January 21, 2020.

The Chair said he would like to see accurate elevations for the site and the traffic study. Ms. Zsembery asked Ms. O'Connor to review the Board's list of requests from the last meeting in January especially the quality and detail of the plan drawings. Mr. Benson asked for some clarification regarding the new shadow studies including the neighboring properties with solar arrays. Mr. Benson would like to know how the traffic studies will be conducted without accurate traffic conditions due to the current COVID-19 conditions and school summer break. Mr. Watson said it would be very helpful to look at the 2012 traffic report even though traffic and bicycle volumes have increased significantly since 2012. Ms. Raitt said that TAC will be reviewing the traffic study due to the recent fatal traffic accident but the applicant's traffic study needs to be updated and focus on neighborhood impact.

The Chair opened the floor to members of the public for comment. Don Seltzer commented on the statement that this lot is not for residential use and the waiver under the floor area ratio is not available because the lot is less than 20,000 square feet. Mr. Seltzer said he has the following concerns: there is no frontage along Clark Street, the current shadow studies, 4th floor step-back must be on both Clark Street and Mass. Ave. Mr. Seltzer said he feels that new elevations will exceed the 50 foot elevations that previous plans show. Mr. Seltzer is also concerned about delivery trucks having enough room to maneuver. Carl Wagner says he feels it is strange that people who have powerful positions in Town Government or related to Town Government can then represent people in front of Town Boards. Mr. Wagner said someone on the Board of Assessors who can lead the Board one way or the other. Ms. O'Connor said that she is a Special Town Employee exempted



and able to represent parties in front of the Board as a matter of Massachusetts law.

Lisa Hines wanted to speak in favor of the project as a property owner in the vicinity and would like to voice support for investment in this property. Ann LeRoyer said that she has questions regarding the bonus FAR and public access. Ms. LeRoyer has questions about how Mr. Doherty would steward this property in the future. Ms. LeRoyer said traffic is a major concern for the neighborhood, the building across the street is being renovated and will bring more traffic into the area. Ms. LeRoyer said neighbors are concerned about what recourse they may have in the future if the hotel is not successful and is abandoned.

Chris Loreti said he is concerned about legal aspects that pertain to the case including the by-law. Legal notice for this hearing was defective because Section 11 of 40A of the state zoning act requires that the nature of the relief should be put into the legal notice for the Special Permit Hearing. Mr. Loreti asked the Board to consider Section 1.4 and take the most restrictive reading of it. Mr. Loreti said that a hotel does not fit the B2 zoning district according to the by-law. Mr. Loreti said the bonus provision does not apply due to the lot size, as B2 is not listed at all. Mr. Loreti said he is also concerned that there is no usable open space and no provisions for landscaped open space, and the gross floor calculation. Mr. Loreti said public comments should be included with the docket materials.

Michael Sandler said that since the DPW, High School, and the building across the street will be under construction, the neighborhood is experiencing transition and needs an actual traffic study for this project. Carol McDonald said nothing should go forward without a traffic study. Ms. McDonald asked to see the permit if the tanks were removed from that site and how comprehensive the contamination study is. Ms. McDonald said hotels are being built in Somerville and Cambridge and asked what the impact will be on a smaller hotel in Arlington.

Ms. McDonald asked why the Town is not renting out the DAV building in the meantime to have some income coming into the Town. Ms. O'Connor said that the building is owned by the Town and that is the Town's choice.

Andrea Dwyer is eager to see the property cleaned up; the property is currently an eyesore. Ms. Dwyer said she has concerns about traffic, parking, and privacy issues with having a hotel in the neighborhood. Ms. Dwyer would like an elevation that shows the rear of the property so neighbors can see the expected height of the building as she is concerned about having a building looming over her property.

Marina Darlow lives across the street from the property concerned about traffic, parking, and restaurant patrons possibly parking on neighboring side streets. Ms. Darlow would like to see more detailed elevations and set-back details with better quality drawings so neighbors can see what the hotel will really look like.

Chris Loreti asked if the Chair could confirm that the Chair received the transcript Mr. Loreti sent from Town Meeting at the time the mixed-use zoning by-law was passed. The Chair confirmed that it was received. Mr. Benson said that he feels bound by the finding of Town Counsel that the proposed hotel meets the requirements for mixed-use property and the required 4<sup>th</sup> floor step-backs. Ms. Zsembery said that she would like to be able to review the traffic study the next time this continued hearing is in front of the board. Mr. Benson moved to continue this hearing to July 6, 2020 at 7:00PM, Mr. Lau seconded, approved 5-0.

The Chair introduced the third agenda item, Director's updates. Ms. Raitt said that the Department continues to work remotely and anticipates remote meetings through the summer. Staffing capacity has been reduced due to staff working on the COVID-19 response. Ms. Raitt said the Department does not have virtual forums scheduled at this point and the Department is exploring other options for feedback for plans and studies in progress. Ms. Raitt said that there are currently



surveys out for the sustainable transportation plan, housing and economic development, and residential design guidelines.

The Chair opened the floor to comment from the public for the Open Forum portion of the meeting. There were no comments.

Mr. Lau moved to adjourn, Mr. Benson seconded, approved 5-0.

Meeting adjourned.

DRAFT





## Town of Arlington, Massachusetts

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### Correspondence Received

#### Summary:

A. LeRoyer correspondence received 6/29/20

#### ATTACHMENTS:

Type	File Name	Description
<input type="checkbox"/> Reference Material	Correspondence_Received_062920_for_3602_LeRoyer_Comments_on_Hotel_June_29__2020.pdf	Correspondence from A. LeRoyer received 062920



## Comments on Proposed Hotel/Restaurant at 1207-1211 Mass Ave, Arlington

### Docket # 3602 – Special Permit and Environmental Design Review

To: Andrew Bunnell, Chair, Arlington Redevelopment Board and Jenny Raitt, ARB Secretary Ex Officio  
jraitt@town.arlington.ma.us; EZwirko@town.arlington.ma.us; ABunnell@town.arlington.ma.us;  
DWatson@town.arlington.ma.us; KLau@town.arlington.ma.us; rzsemlery@town.arlington.ma.us;  
EBenson@town.arlington.ma.us

From: Ann LeRoyer, 12 Peirce St., Arlington, 781-646-7254, annleroyer12@gmail.com, TMM Precinct 17

Date: June 29, 2020

These comments reiterate and expand on some of the statements that other neighbors and I made during the ARB's continued public hearing on this proposal on May 18, 2020.

#### Regarding the 5/11/20 Letter from Mary Winstanley O'Connor (Doherty lawyer) to Jenny Raitt

**1. Bonus FAR** – "The petitioner is proposing 'public access' space which will provide for a public art and presentation area located in the front right area of the Property. As such, the Property ... is entitled to a 10% increase in FAR."

Is that argument, the provision of public access space, sufficient to grant increased FAR? Such access would be weather-dependent, and thus would be in effect only during summer months. Further, no plan or design has yet been provided to justify this request. No decision about bonus FAR in exchange for "public access" should be considered until it is vetted more thoroughly.

Members of the neighborhood have already expressed concerns about noise and hours of operation of the proposed outdoor patio seating/dining area. Adding additional outdoor activity is also problematic and requires more explanation.

**2. Parking** – The petitioner is requesting a reduction in required parking, but has not yet provided any details about how they will accommodate overflow from hotel usage or the parking needs for restaurant clients and employees. As the neighbors have noted previously, the additional traffic and parking activity generated by this proposed project are of grave concern. Further information is needed to address how these various parking needs will be accommodated so that the nearby residential streets (Clark, Peirce and Locke) are not overburdened as a result.

Although hotel parking is to be handled by a valet, he/she will still be driving in and out of the parking area on Clark Street many times a day, and will have to make either a difficult left turn onto a busy Mass Ave or drive around the block on Peirce and Forest Streets to reach the front of the hotel. What about when the valet is absent, unavailable or too busy? What about hotel or restaurant customers who may not know the rules regarding self-parking under the hotel? Again, much more information is needed on how these issues will be addressed.



We look forward to seeing the comprehensive traffic study that the ARB has requested before we can comment further about this complicated parking/traffic situation.

**3. Upper Story Step Back (setback)** – The petitioner is asking to reduce or eliminate the required step back on the 4<sup>th</sup> floor. She argues that this mixed-use project "contains a boutique hotel on substantially unimproved lots." In fact, the B-4 vehicle-related lot is owned by James Doherty and his real estate trust. He has owned it since 2012, so he is responsible for its "unimproved" appearance, including abandoned vehicles, stacks of tires and other trash, and storage containers.

A second argument for a step back waiver states that "in order to be successful, there must be adequate room revenue" (i.e., presumably additional space on the 4<sup>th</sup> floor for more rooms or higher room rates). Is it the ARB's responsibility to worry about the financial success of this project and to take such issues into consideration when granting extra FAR and step back flexibility?

In earlier correspondence on January 7, 2020, Jenny Raitt noted in item 6 that "DPCD has not received a marketing study of similar hotels" as previously requested. In her January 21, 2020 letter in reply, Ms. O'Connor stated, "The petitioner will not be providing this information as it is proprietary and is not relevant to the relief requested." But, how can the ARB determine if a decision about the step back would or would not contribute to the project's success if it cannot know what the hotel's marketing and business plan is meant to achieve?

Both of these arguments seem to me to be completely irrelevant and specious. The Town Counsel's letter of May 13, 2020 clarifies that upper story step backs should start on the 4<sup>th</sup> floor in this particular case, and the ARB should not consider any flexibility on that issue.

### **Regarding the 5/14/20 Memo from Jenny Raitt on outstanding information still needed**

Ms. Raitt itemizes many missing plans and documents based on her previous January 21, 2020 checklist, and we also look forward to seeing more details about these concerns, especially the need for more extensive traffic studies. In light of two recent bicycle accidents (one of them fatal) at the corner of Mass Ave. and Appleton St., extra scrutiny is required regarding traffic patterns in this section of the Mass Ave. corridor. Other committees, such as the Transportation Advisory Committee and the Bicycle Advisory Committee, are also looking into this difficult section of roadway, and all of their findings should be considered together as part of this special permit.

The Covid-19 pandemic has added further concern about the validity of the petitioner's forthcoming traffic study, since normal pedestrian and car activity in general, but especially traffic related to the Ottoson School, Children's Place and St. Athanasius Greek Church, has been curtailed for several months when presumably such studies would have been done. Input from all of these neighborhood institutions should be solicited as well.

### **Further questions/concerns**

Parking – only 1 spot is designated for handicapped parking in the hotel parking area – is that sufficient for expected hotel usage, and does it meet town requirements?

Interior reconstruction in the former Nicola's Pizza shop at Clark St./Mass Ave. has started for conversion to a liquor store, so that future usage also needs to be factored into the analysis of traffic and parking in the area.



The probable loss of several large trees behind the DAV building is not addressed in Ms. Raitt's 5/14/20 memo, but has been raised in previous correspondence and hearings. This possibility continues to be a concern in terms of its impact on neighborhood character, and I would like an opinion from the Tree Warden or other relevant official as to regulations protecting mature trees in such a situation.

A related concern is the height and massing of the proposed structure, especially as viewed from residences on Peirce Street. As discussed at the hearing on May 18, a more complete and accurate set of architectural plans, elevations and other details need to be provided in order to gain a true sense of how this building will affect the neighborhood.

At the May 18 hearing, Carol MacDonald of 1182 Mass Ave. mentioned that this site was formerly a gas station, and that gas tanks might have created contamination on the site. I hope that is being investigated as well.

What recourse will neighbors have in years to come if this hotel project is built but creates even worse traffic or other problems for the area? This developer/landowner has a poor history of caretaking the 1211 Mass Ave. property. The town also has not been a good steward of the DAV property, which is now abandoned and overgrown with weeds.

I think we can all agree that some redevelopment of the two properties at 1207-1211 Mass Ave will be beneficial and is long overdue, but **this particular hotel/restaurant project as presented to date is too large for the site already**, and the developer is asking for even more space (bonus FAR, less step back).

There are so many outstanding concerns and incomplete information that it is difficult to know what to expect. I look forward to seeing the additional plans and traffic studies already requested by the ARB, and to further discussion at the July 6 public hearing.

Thank you for your consideration of these ongoing concerns.

Ann LeRoyer